

LATEST SMARTPHONES, TABLETS & WEARABLES

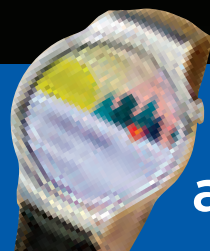
ANDROID

ADVISOR

ISSUE
22

BEST NEW PHONES 2016

Most exciting
smartphone
launches for
the new year



 The best new smartwatches
and fitness trackers reviewed

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Welcome...

From the Samsung Galaxy S7 and S7 Edge to the Sony Xperia Z6, HTC One M10, LG G5, OnePlus 3 and a brand new Android N operating system, 2016 is set to be a great year for smartphones. We look at some early rumours of the best phones coming this year overleaf.

One of the most common New Year resolutions in 2016 will be to get fit, and technology can help you to keep track of your daily activities and progress. From page 71 onward we review Samsung's latest Gear S2 smartwatch, the new Moto 360 2, the gorgeous Huawei Watch, and a fantastic-value activity tracker from Xiaomi.

With smartphone cameras becoming more powerful with every generation, you may well have some fantastic photos you've shot languishing in the Gallery. We look at four great instant printers for your phone snaps on page 29.

Last month we guessed that more than a few of you would find a brand new Amazon Fire tablet under your Christmas tree. If you did, and you're wondering how to get standard Android apps from Google Play on it, wonder no more – we show you how on page 21.

As always, we hope you've enjoyed this issue of Android Advisor. Feel free to send us your feedback via facebook.com/AndroidAdvisorUK or email marie_brewis@idg.co.uk.



News:

Best new smartphones we can expect in 2016

The Android handsets we can't wait to get our hands on

Google Nexus 6

It's very early days for new Nexus 6 rumours, but we've already heard a tip-off that the smartphone will once again be made by Huawei, and that it will feature a Snapdragon 820 chip, which is more powerful and energy efficient, and builds in support for Qualcomm Quick Charge 3.0.



Some other stuff we ‘know’ includes the fact it will be the launch vehicle for the new Android operating system, Android N, and it will most likely arrive in October. This will be a large-screen phablet (the clue is in the ‘6’) and with support for USB-C now built into Android it will use that format for data transfer and charging.

HTC One M10

Now that we know the phone unveiled by HTC in October was an HTC One A9, we’re still expecting to see the HTC One M10 in March 2016.

HTC One launches are traditionally held just prior to March’s Mobile World Congress show, and HTC chairwoman Cher Wang has said there would be significant improvements in innovations and design for the next flagship model next year.

A key area in which HTC now lags behind its rivals is the screen, with the M9 featuring a full- rather than Quad HD display. We’d expect to see some



key improvements here, as well as some general performance enhancements.

LG G5

It's not long since we welcomed the LG G4, but the LG G5 will be here by the end of spring 2016.

Obviously very little is known so far about LG's next flagship, but we have heard that the company is working with Irience to bring an iris scanner to the G5. And that's something of a surprise, given that the LG G4 doesn't even feature a fingerprint scanner. This isn't brand-new tech, and in fact we have an UMI Iron phone in front of us with the same iris-scanning technology, but it will bring iris scanning in front of a UK audience for the first time.

The new LG G5 is thought to have a larger-capacity battery – perhaps up to 4000mAh – and the company is expected to retain the ability to remove, and also wirelessly charge, the battery.



LG G Flex 3

The LG G Flex 2 was an interesting smartphone, with its curved form-factor and material that would automatically heal scratches. Mark 3 should be more interesting still, with a rumoured metal body and premium design. Expect the Qualcomm Snapdragon 820 and 4GB of RAM inside, plus 32GB of (expandable via microSD) storage. Leaks suggest there will be a 3500mAh battery, a fingerprint scanner, and 20.7/8Mp cameras. Although the LG G Flex 3 has not yet been officially confirmed by the company, we expect it to make an appearance in early 2016 – probably at CES 2016 – with a price tag a touch over £500.





LG V10

LG has unveiled what looks to be the LG G4 Pro, except it's known as the LG V10. It's a dual-screen Quad-HD smartphone with two front-facing selfie cameras, a manual mode for video and support for microSD up to 2TB. Other highlights include 64GB of built-in storage, a 3000mAh removable battery, a hexa-core Snapdragon 808 chip with 4GB of RAM and a 32-bit Hi-Fi DAC.

It's not yet been confirmed when the LG V10 will go on sale in the UK, although we hope it will be late 2015 rather than early 2016.

Nextbit Robin

Things on Kickstarter are often a complete load of rubbish but the Nextbit Robin is a success story which we're looking forward to seeing in the flesh.



The firm was founded in 2012 and its key staff have been involved with Android since the beginning. Collectively, they've worked on launching phones including the G1, Nexus and HTC One M8 and M8.

Due to arrive February 2016 with a price tag of \$399, the 'cloud-first' smartphone has a different approach to most other Android devices on the market. There is on-board storage but the phone will automatically optimise by doing things like moving unused apps and photos to the cloud.

OnePlus 2 Mini

Despite having only recently announced the OnePlus X, a smaller OnePlus smartphone than the company's flagship OnePlus 2, there are rumours that we'll soon see a third OnePlus smartphone.

This new OnePlus phone will be smaller than the OnePlus X, but with performance to match the OnePlus 2, so we assume it will be priced somewhere in between the two – that's if it ever sees the light of day.

The rumours of a OnePlus 2 Mini phone stem from an entry in the GFXBench database of an unknown OnePlus device with a 4.6in screen (the OnePlus X has a 5in screen and the OnePlus 2 a 5.5in screen). That's a full-HD (1808p panel), and other specs include a 1.7GHz Qualcomm Snapdragon 810 processor, 4GB of RAM, 64GB



of storage and 12- and 5Mp cameras. In common with the OnePlus 2 there's no NFC.

OnePlus 3

OnePlus has spoiled us in 2015 with both the 2 and X, but we're already hearing whispers about a 3. The image pictured here is a render, and may be little more than an artist's impression of what they'd like to see. Still if it's true, there's no sign of the fingerprint scanner previously built into the home button, which may mean OnePlus is going down the Sony route by building it into the power button, or it could mean it's dropped it, possibly in favour of something more radical such as iris-scanning.

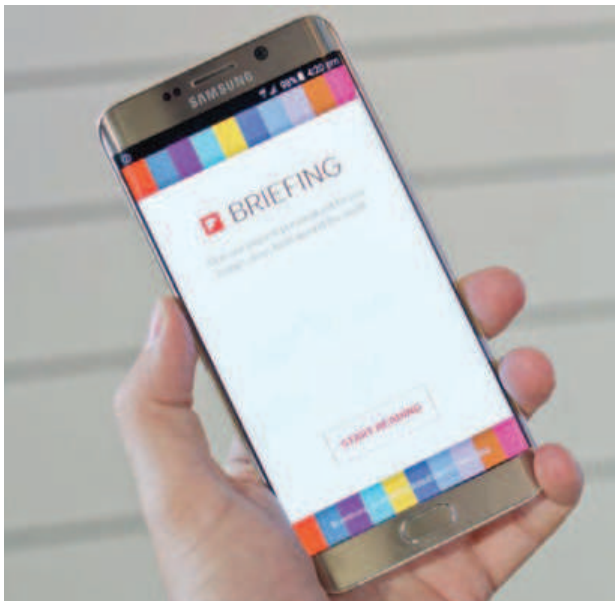
Early leaked specifications include the Qualcomm Snapdragon 820 chip that will feature heavily in 2016 flagships, offering improved performance



and battery efficiency, plus support for Qualcomm Quick Charge 3.0 and Adreno 530 graphics. And OnePlus will allegedly continue to fit a 1080p full-HD screen, which suggests to us the OnePlus 3, like the One and 2 before it, will be a great-value phone (probably under £300) with high-end specs and a mid-range price.

Samsung Galaxy S7 and S7 Edge

In March at Mobile World Congress we will see the new Galaxy S7 revealed. In the S6, Samsung turned its back on Qualcomm and instead used one of its own Exynos processors; while it's possible that we could see a continuation of this trend, we know Samsung has already been testing out the Snapdragon 820. In fact, Samsung is thought to be working alongside Qualcomm in



manufacturing the 820 with 3GHz Kyro CPU cores. This also means the new S7 could see Adreno 530 graphics and LP-DDR4 RAM – possibly as much as 6GB, although 4GB is more likely.

We don't expect to see anything new in the already very good screen, so expect a 5.1in Quad HD SuperAMOLED panel. The fingerprint scanner and heart-rate monitor found in the S6 will also likely feature. The Samsung Galaxy S7 will come with Android 6.0 Marshmallow and TouchWiz.

Sony Xperia Z6

Sony has had a rough ride in the smartphone market this year and while it will hope the Xperia Z5 range will be a big success, its thoughts must now be firmly with the Xperia Z6. There's little in the way of leaked information on the phone but it does seem that Sony will stop its six-month refresh cycle meaning the Xperia Z6 will arrive around September 2016. We're expecting a similar offering to the Z5 with waterproofing and a fingerprint scanner but we hope it will shake things up a bit with something different to past phones.

Marie Brewis





News:

Steve Ballmer thinks future is Android

Another Windows Android phone could be a possibility

Windows 10 Mobile has barely launched, and Microsoft's former chief executive is already burying it, though in doing so, he may be pointing toward a better way forward for the firm. At Microsoft's recent shareholder conference, Bloomberg reporter Dina Bass was in the right place at the right time. She picked up former chief executive – and still shareholder – Steve Ballmer criticising chief executive Satya Nadella and other Microsoft management. One of Microsoft's faults, according to Ballmer? Ignoring Android apps.

There really isn't much news here, just a fraction of a quote:

“Ballmer also criticised Nadella’s answer to an audience member questioning the lack of key apps, like one for Starbucks, on the company’s Windows Phone. Nadella responded by citing the company’s plan to appeal to Windows developers by allowing them to write universal applications that work on computers, phones and tablets, targeting a larger array of devices than just Microsoft’s handsets that have just a single-digit share of the mobile market. ‘That won’t work,’ Ballmer commented as Nadella spoke. Instead, the company needs to enable Windows Phones ‘to run Android apps,’ he said.”

Was he right? Possibly. But how does Microsoft convince Android developers to port apps to Windows? It seems like another Android phone might be one answer.

Apps don’t seem to be working out

Microsoft’s app store clearly lags behind its competition. True, the list of the most downloaded free mobile Windows Phone apps reads like a who’s who of the web: Facebook, Amazon, Netflix, Twitter, and more, especially when you compare them against the most downloaded free apps on Android, for example. But look a little closer, and several apps, including Instagram and Twitter, are either listed as beta apps or are simply nowhere near the quality of apps offered on other platforms.

It just gets worse when you consider that games such as Plants vs. Zombies, Terraria and Need for Speed are all available for Android, but not Windows Phone. Both Android and iOS simply generate more revenue for developers than Windows phones

do, and Windows Phone's miniscule 2.2 percent market share certainly isn't helping. Most developers neglect or outright ignore Windows Phone as a result, and fewer apps only mean fewer would-be Windows Phone buyers. It's a vicious circle.

It's not clear exactly what Ballmer meant by his comments, though. Was he implying that Windows Phones need to run apps that were originally designed for Android, and then ported over to Windows? In that case, he's probably aware that Project Astoria, the Windows 'bridge' tool designed to allow developers to port Android apps to Windows, has reportedly been put on hold. If developers are going to run Android apps on Windows, they'll need to take their iOS port – if they have one – and then port that code over to Windows with the complementary 'Islandwood' bridge.

However, at the time of writing, Islandwood was still listed as a '0.1 Preview', which seems to be about as far away from a piece of finished code as you can get.

An Android fork?

At this point, Microsoft has several other options. One of these clearly is its current strategy: seed as many apps and services on to other platforms as possible, both as a revenue-generating opportunity (Office 365 subscriptions) and also to woo as many customers as possible to Windows.

As Microsoft's financial results indicate, the bulk of the company's revenue still flows from Windows, Office, and other enterprise services; once you start using the Outlook app for iOS; for example, you might be interested in signing up for more robust

collaborative features that Microsoft's office suite offers.

Ballmer's cryptic comment could also imply that he thinks an emulation layer might be the best bet. We have a hard time believing that's the case, though BlackBerry tried emulation with BB10, reportedly somewhat successfully. (BlackBerry now manufactures Android phones, however.)



The other option? As strange as it sounds, a Windows-branded Android phone might not be so far-fetched. You can already jury-rig a 'Windows Android phone' by using Cortana, Bing, Outlook, Skype, the Office apps and more into an (almost) all Microsoft, all the time creation.

But given that Android is an open operating system, there's really nothing stopping Microsoft from actually crafting its own fork of the Android OS, as long as they adhere to the correct open-source licenses. Google's Play Store and related services require their own agreements and licensing, but

Microsoft wouldn't have to tap into that, as Amazon's own Fire OS also sidesteps those restrictions. In other words, it could use its own Microsoft Store for users to launch and download apps.

The problem, as Greenbot's Jason Cross tells us, is that many Android apps use Google Play services, which means that either Microsoft would either have to exclude those apps, or else ask developers to craft special versions for Microsoft, though that brings Microsoft right back to square one in a way. But where attracting users to Microsoft's apps and services without luring them to its platforms is a customer-facing philosophy, the company could continue pursuing a similar strategy with developers, providing app makers with back end APIs to its services.

It's important to note that we've gone down this road before. Shortly before Microsoft acquired Nokia's device business, the Finnish company had developed the Nokia X: an Android powered phone with an array of Windows-like tiles. Stephen Elop, the chief executive of Nokia who joined Microsoft as part of the acquisition, promised that the Nokia X would live on. It didn't, and Elop left in the summer.

So far, there hasn't been the faintest hint that Microsoft is developing its own Android operating system or phone, though. And with Microsoft already hurling billions of dollars at its own Windows Phone and device development, it may be that management will balk at spending more. But the nagging question remains: if Microsoft has hitched its wagon to 'cloud first, mobile first', you need a viable mobile platform to ride. And isn't that increasingly looking like Android? **Martin Hachman**



News:

EE Power Bar recall

EE discovers that its Power Bars pose a safety risk

Following a recall of a batch of its Power Bars back in August, EE has now issued a recall for all of its EE Power Bars because there have been a number of further incidents of severe overheating that could cause a fire safety risk or burns.

What to do with your EE Power Bar

On 5 August 2015, EE published a web page that explained that was is recalling some of its Power Bars after it was discovered that they aren't safe.

The recall was originally limited to a particular batch of Power Bars but since the recall there have been several further incidents that have led EE to recall every single one of the Power Bars it gave its customers for free earlier this year.

“We’re recalling all EE Power Bars,” EE said on its website on 16 December 2015. “This is just a precaution, but we want to make sure all our customers are safe.”

“We are taking this action because we are aware of a very small number of further incidents where Power Bars have overheated in circumstances that could cause a fire safety risk.”

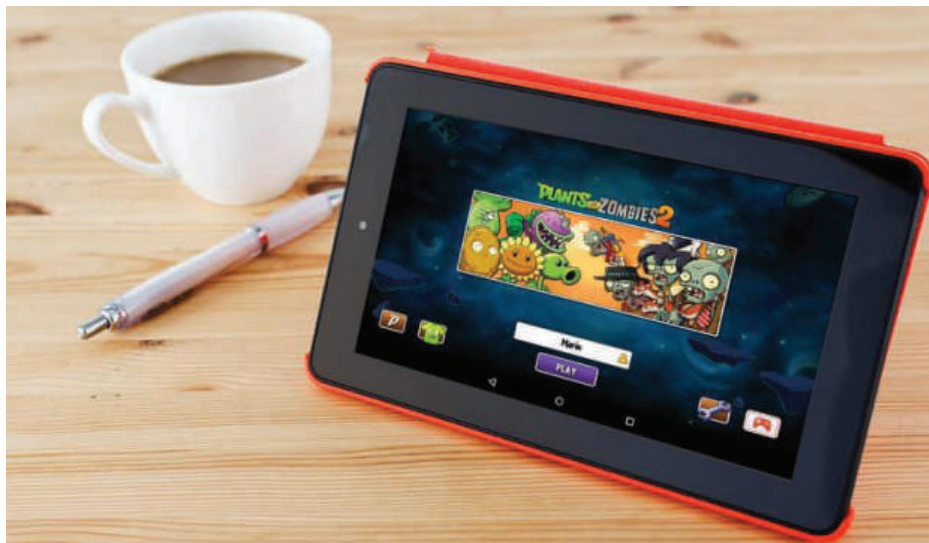
EE said that you should stop using your Power Bar immediately and return it to your local EE Store. If you’re unable to get to an EE Store, EE recommends calling its information hotline on 0800 079 0305.

How to get your £20 EE voucher

It’s annoying, yes, but safety is the most important thing here so we strongly advise taking your Power Bar to EE if you can. The good news is that, when you return the Power Bar to an EE Store you will be given a £20 voucher if you are an eligible EE customer. You’ll be able to use that voucher at accessories.ee.co.uk.

Swap program suspended

Of course, in addition to the recall, EE has also suspended the swap program until further notice. We’ll update this article with further information as it emerges. EE says “At the moment we are fully focused on the recall and we will make further announcements soon.” **Chris Martin**



How To: Get Android apps on Amazon Fire tablet

Plus, get Plants vs Zombies 2 on an Amazon Fire

Usually you can install an Android app on an Amazon Fire tablet simply by downloading its .apk file from the web (a Google search will bring up several sources, or we'll explain how to ensure you have the latest version below), enabling the ability to install apps from unknown sources in the Settings/Security menu (Settings/Applications on older Fire tablets), and then tapping on the downloaded file to install it (if you have parental

controls set up you'll need to enter your password before you can enable app installation from unknown sources).

However, it's not nearly as simple with Plants vs Zombies 2 and other such games, which tie into Google Play Games to save game data and make it available to all your Android devices. In the following walkthrough we'll explain how to get Plants vs Zombies 2 on an Amazon Fire tablet.

Get Plants vs Zombies 2 on Amazon Fire tablets

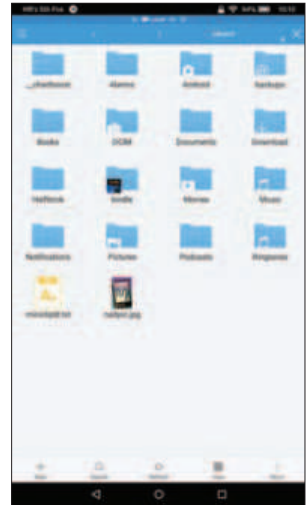
Note that without rooting Plants vs Zombies 2 will work only on Amazon Fire tablets running Amazon Fire OS 5, such as the new £49 Amazon Fire 7 tablet. When we tried the following workaround on an Amazon Fire HD 6 Kids Edition running Fire OS 4.5.5, the game was unable to locate the Obb data files it required to run, despite us downloading them and placing them in the usual folder. We couldn't find a way to rectify this, but if you have a solution please post it in the comments below this article.

You can check which version of Fire OS you are running in the Settings, Device Options, System Updates menu. Also check here whether any new updates are available for your Fire tablet.

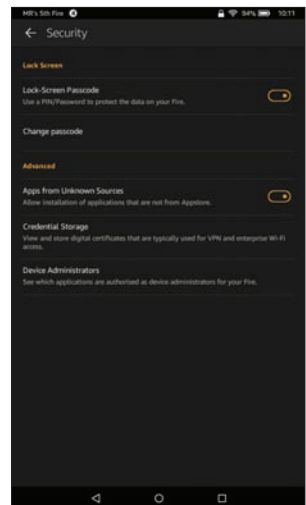
We have reached out to Amazon to find out whether older Fire tablets will be upgraded to Fire OS 5 and are awaiting a response. In the meantime, the below workaround should help you play games that tie into Google Play Games but don't need to download additional resources before you can play them. It will be very much a process of trial and error, however, to see what works and what doesn't.

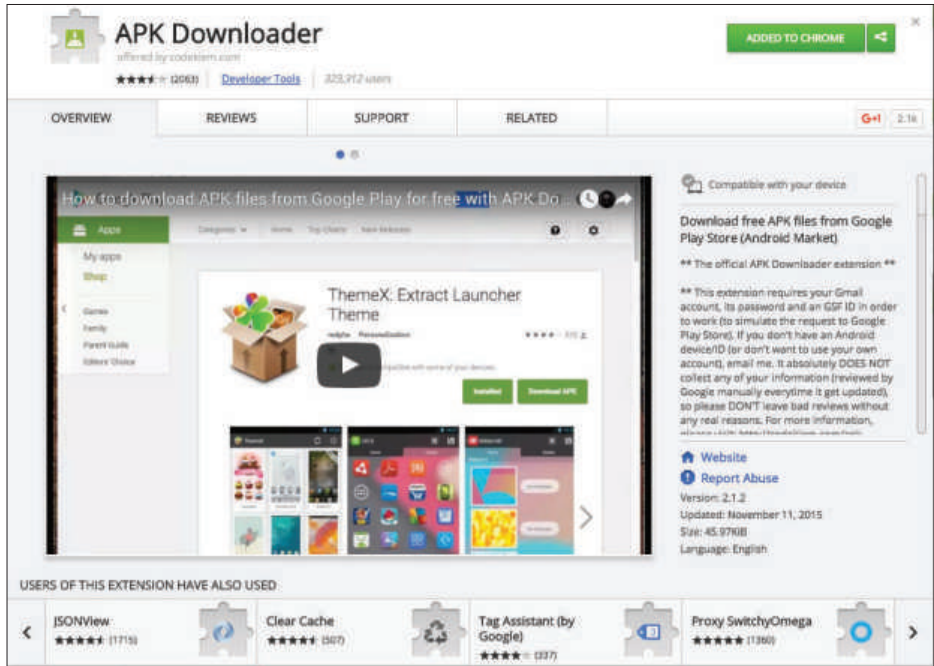
In order to complete the following walkthrough you'll need a PC (we're using a Mac) to which you can download the necessary files, unzip them, and then transfer them to your Fire tablet using a Micro-USB cable.

Step 1. Download the ES File Explorer to your tablet, which is free from the Amazon AppStore.



Step 2. Configure your Fire tablet to allow the installation of apps from unknown sources. You can do this by going to Settings, Security and turning on 'Apps from Unknown sources'. If you have parental controls set up you will need to enter your password to do so.





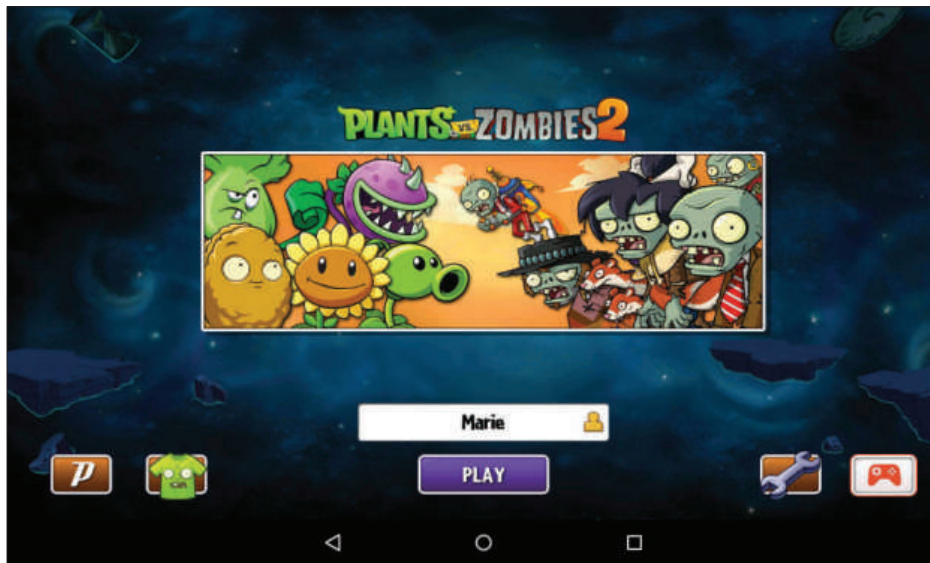
Step 3. On your PC, download the following files:
Both the Plants vs Zombies 2 .apk file and Obb data. You can download a version of this from numerous websites, but if you want to ensure you have the latest version you can download it directly from Google Play. To do so you'll need to be using the Google Chrome browser on your computer. Download an APK downloader extension from the Chrome store.

With this in place you can go to the Plants Vs Zombies 2 download page on the desktop version of the Google Play Store (tinyurl.com/jm7xx3z) and you'll see a new 'Download APK' button beside the usual 'Install' button. Tap this to download both the .apk file and the Obb data.

Android/obb/com.ea.game.pvz2_row-130-obb/main.130.com.ea.game.pvz2_row.obb.

Step 6. Open the ES File Explorer app on your Fire tablet, swipe in from the right and then select the Downloads folder. In the order that they are listed here go through each file one by one, tap on them to launch the installer and follow the instructions to install them on your Fire tablet. Once you have installed the Google Play Store app you should also launch it and sign into your Google account (note that you won't be able to use the Play Store, but it needs to be running on your device).

Having done all this you can launch the Plants vs Zombies 2 app, which should proceed to download resources, sign into your Google Play Games account, and be available to play on your Amazon Fire tablet. **Marie Brewis**





How To: Transfer WhatsApp messages to a new phone

Add old WhatsApp messages to a new handset

WhatsApp is a tremendously useful way to keep in touch with people all over the world, pretty much for free. There is a rather large problem that users can encounter though, and that is when moving on to a new phone their conversations don't come with them. This is due to the way that the app stores content locally rather than on web servers. If you still have your old phone to hand, and haven't switched from Android

to iOS or vice versa, then it's still possible to salvage those chats and move them safely to a new home. In this guide, we'll take you through the short process of copying and restoring your digital missives.

Using an SD card

If you have an Android phone with an SD card, then the process for transferring your chat history is reasonably straightforward. Open the app, then tap the Menu icon then go to Settings > Chats and calls > Backup Chats. This will now create a backup on your SD card, which you can then swap into your new handset. Reinstall WhatsApp on your replacement device (with the SD card inserted) and the app should spot your backup and automatically restore the chat history.

Using a PC

Those phones without an SD card (and there are more of them now) can still move their chat history, but it will need a PC to make it happen. Attach the USB charging cord to the phone and plug the other end into your PC. Windows should automatically install any drivers you need, and then you can find the phone in the This PC section of File Explorer. Now look through the phone storage until you find the WhatsApp folder, then copy it on to your PC hard drive. Eject the phone, then connect your handset and move the WhatsApp folder onto its internal storage. Eject the phone, reinstall WhatsApp, and when you confirm your number the backup should be recognised and you can restore it. With this done you should now have all your past conversations on your new Android phone. **Martyn Casserly**



Group Test: Print from your phone

The best Polaroid and instant printers for your handset

Fujifilm Instax Share Smartphone Printer SP-1

Fujifilm's Instax Share Smartphone Printer SP-1 is one of the better-known instant printers that let you bypass a PC and print Polaroid-style images directly from your smartphone. You simply connect to it using Wi-Fi as if it were a wireless router.

The Instax Share is available from Amazon UK for £108.99, or you can buy it in a bundle with 10- (£124.99) or 20 shots (£144.95). When the photo paper runs out, current Amazon UK pricing is 10 'Mini' sheets for £12.89 and 10 'Wide' sheets for £9.95,

or twin bundles for £14.49 and £13.99 respectively. You can choose from a variety of templates, from standard White to Candy Pop, Comic, Dalmatian, Rainbow, Shiny Star, Stained Glass and Wedding.

As with the original Polaroid cameras on which the idea is based, this means each photo is reasonably expensive – your cheapest option (the 20x Wide) works out at 70p per photo. At least with these type of instant printers you get to choose only your favourite pictures, rather than snapping away and hoping the results are decent.

As well discover in the following slides, there are cheaper instant printers. However, what we particularly like about the Instax Share is the various templates that let you add captions with a message or the time and date, weather or even an Instagram or Facebook status.

Printing from your smartphone with the Instax Share printer is easy – download the free app from Google Play or the Apple App Store, choose an image from your photo gallery or social media, add a template and edit as required, then hit print.

The Instax Share is easily portable at 101.6x42x122.5mm and 253g. It requires two CR2 batteries that should be good for around 100 shots, or you can run it from a mains adaptor (although one is not supplied). LEDs at the front let you see at a glance when you're running low on power or paper.



Polaroid Zip Instant Photoprinter

What better company to revolutionise the Polaroid camera concept than Polaroid itself? Polaroid's Zip Instant Photoprinter is a similar setup to the Instax Share from Polaroid, connecting to your phone via Bluetooth (NFC is available for faster pairing) to print your favourite photos on-demand.

The Zip printer itself is a similar price to the Instax Share, at £109.99 from Amazon UK (in black, blue or red), but photo paper is cheaper. You can get a pack of 50 2x3in sheets from Amazon UK for £24.99, which means each shot works out at 50p – 20p cheaper than with the Instax.

This photo paper is known as Zink, which is short for zero ink. Polaroid says its



photo paper produces photo-quality, full-colour output that won't smudge. Plus, it has a sticky back, so you won't need Sellotape to pin your favourite selfies to your mirror.

Where the Polaroid Zip falls down against the Instax Share is in its lack of customisation options. Whereas you can edit images, add templates and choose from a variety of custom photo papers, with the Zip what you see is what you print. But that may be all you need.

The Zip is smaller and more portable than the Instax Share at 23x74x120mm and 186g, although both are pretty mini as printers go. It's rechargeable battery should be good for around 25 shots.

Prynt Case

The Prynt Case is a slightly different approach to the instant smartphone printer, and acts as a case into which you slot your smartphone to produce a photo in under 30 seconds. This does mean, however, that it's not available for all phones - Prynt currently lists white and black models for the iPhone 5/5c/5s/6/6s and Samsung Galaxy S4/S5 on its site.

The Prynt Case is currently available to preorder and should ship in mid-January 2016. It costs \$139 and you get 10 sheets of photo paper; additional packs of 50 sheets cost \$25, which means prints work out at half a dollar (around 33p) each. Standard shipping is an additional \$12, but prices don't include VAT, so you'll need to add 20 percent if you're shipping to the UK. This means the printer will set you back \$178.80, or around £118.50.

Like the Instax Share it has a companion app that lets you add frames, filters, stickers and text, and



every time you take a photo the app records a short video and uploads it to the cloud. After the photo has been printed your friends can use the Prynt app to see the story behind the photo. And like the Polaroid Zip it uses Zink technology to produce high-quality, smudge-resistant photo prints.

If you have a compatible phone the Prynt Case is the most easily portable solution here, and it has an internal battery that handily charges over Micro-USB.

Canon Selphy CP910

The Canon Selphy CP910 is a proper compact photo printer rather than something designed simply for printing from your phone, and as such it can print photos directly from an SD card, USB memory stick or camera via PictBridge, a PC or laptop via USB, and it can wirelessly connect to your phone over the Canon Easy-PhotoPrint app (also supports

AirPrint for Apple phones). It's cheaper than the dedicated smartphone printers, with larger prints (available in around 27 seconds) that should last 100 years and lower running costs, but it's also bulkier at 178x127x60.5mm and 810g – you're unlikely to sling this one in a handbag. A battery pack, which lasts around 36 prints, is optional, but an AC power supply is included.

The Canon Selphy is currently £76 at Amazon UK. An ink and paper set with 108 sheets of 6x4in photo paper costs £23.56 (also from Amazon), which means photos work out at 22p each. You can also buy photo paper for credit-card- and Passport-photo-sized prints. Unlike the other compact photo printers here a 2.7in colour TFT screen is built-in, making it easier to browse to and select your images to print. The Canon uses a dye-sublimation thermal transfer printing system, and produces prints at 300dpi. **Marie Brewis**





Review:

Sony Xperia Z5 Premium

Been holding out for a 4K phone? The wait is over

£629 inc VAT • sonymobile.com/global-en ★★★★★

One of the surprise announcements of IFA 2015, back in September, was Sony's Xperia Z5 Premium which is the first 4K smartphone to make the light of day. After some proper time with the new phone, here's our full and in-depth Sony Xperia Z5 Premium review.

Also announced at IFA 2015 by Sony was the Sony Xperia Z5 and the Sony Xperia Z5 Compact. Sony faces tough competition in the smartphone market and the unique selling point of the Premium is something which it helps will differentiate it from rivals such as Apple and Samsung.

Price

As you might expect from the world's first 4K phone, the price of the Xperia Z5 Premium lives up to its name. Sony's official price for the handset is a whopping £629. This makes it one of the most expensive phones on the market along with the iPhone 6s Plus which costs up to £789 and the Samsung Galaxy S6 Edge+ which can set you back up to £719 – the Z5 Premium doesn't even include headphones either.

You're better off buying the Xperia Z5 Premium elsewhere as Clove is selling it for £600 with free accessories while Amazon has it for a fairly reasonable £576.

Design

This is the most recognisable of the Z5 range with since it's the largest of the three and, oh yeah, it's shiny mirrored finish. The device will be available in Chrome, Gold and Black options and we took a look at the very bling Chrome option.

It might make the device look fancy and you can check your makeup or do your hair my looking in the back, but you'll be forever polishing it to get rid of fingerprint marks and smudges which appear the first time you pick it up. Things go from gleaming to grubby in a matter of seconds so we prefer the frosted glass of the other Z5 phones.

If you can bear owning a phone this shiny then the Z5 Premium has the same design features as its smaller counterparts. This means its waterproof with only a flap to cover the slot which houses the SIM-card and microSD card slot. It also means the Z5 has a new power button so the iconic round

one is gone and has been replaced with a flat rectangle. Sounds a bit boring but it's because it now has a fingerprint scanner built-in. We've tried it out and it's fast, accurate and is placed on the phone better than any other we've seen exactly where your thumb naturally lies.

At 7.8mm, the Premium is a little thicker than the regular Xperia Z5 but it's not that which we're worried about. The phone weighs 180g which is pretty colossal and more than other phones with the same screen size – even the brick-like OnePlus 2 is lighter at 175g so this is a serious drawback of the Z5 Premium.

We can understand why Sony has kept the same rectangular shape for the Premium to match the other Z5 phones, but at this size it makes for a rather uncomfortable and unwieldy experience.



A smaller problem is that the volume rocker is situated below the power button which makes it pretty awkward to use. That's the same as previous Xperia handsets but it's lower down this time around.

As usual, one of the key selling points is that the Z5 Premium is dust- and waterproof to an IP68 rating which is great to see. There is only one flap, too, making life a lot easier.

4K display

Let's jump straight into the most exciting section of the Xperia Z5 Premium's spec sheet which is that 4K screen. Sony has skipped Quad HD entirely and is the first manufacturer to bring us a resolution on a phone which most people don't even have on their TV or computer monitor yet.

That's right, the Xperia Z5 Premium offers a 2160x3840 resolution on a 5.5in, meaning a jaw dropping pixel density of 806ppi. That beats the Galaxy S6 by a long way which has touts 577ppi.

Sure this phone has some serious top trump credentials in this department and people at the pub might not even believe that it's Ultra HD but the numbers on the spec sheet make up a very small part of the full picture here.

In comparison with the regular Xperia Z5, the premium model doesn't have as much brightness available and colours are slightly less punchy – the latter is more a personal thing and I actually prefer it a bit more laid back.

You might be surprised to hear that the Xperia Z5 Premium is actually using a Full HD resolution the vast majority of the time so you're not getting what it's capable is of. It's not quite false advertising



but it's certainly a misnomer if you ask us. There's a good reason for this and you can probably guess what it is. Driving all those pixels 100 percent of time would result in a serious dip in both performance and battery life. The other reason is that Android 5.1 Lollipop doesn't support 4K resolution.

The latest, 6.0 Marshmallow, does and an update is coming but even then it's designed for up to 640ppi which Google describes as 'extra-extra-extra-high density' which is a fair way off the Premium's 806ppi. When the update does arrive, we doubt Sony will simply remove the downscaling.

So when exactly do you get 4K on the only 4K phone around? Well not often; you need to open Sony's own Album, and Video apps which will

display content in the full resolution. This means you're most likely to see 4K when viewing photos and videos you've captured with the phone. Third party services such as Netflix and YouTube have 4K content but this isn't what you'll get on the phone.

Our conclusion on the 4K screen of the Xperia Z5 Premium is that thing can look great on it with excellent amounts of detail. However, it's extremely limited and really not that different compared to Quad HD phones. At the moment, 4K on a phone is simply a mismatch and we think the need to downscale proves this.

Hardware

So is there anything else other than the 4K screen to tempt you to buy the Premium model over the other Z5 phones on the hardware side?

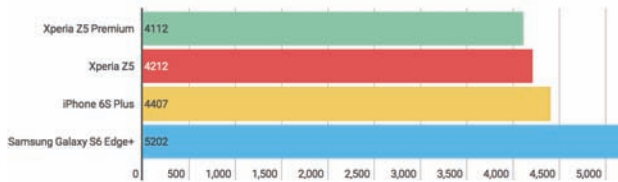
Well not really, the Xperia Z5 Premium also has a Qualcomm Snapdragon 810 processor, 3GB of RAM, 32GB internal storage and a microSD card slot for adding up to 200GB more which is the same line-up as the regular Z5 – the Compact is only different with 2GB of RAM.

As you can see below the phone benchmarked almost identical numbers to the regular Z5 due to the downscaling of the resolution. We've found the phone to be smooth and responsive in use.

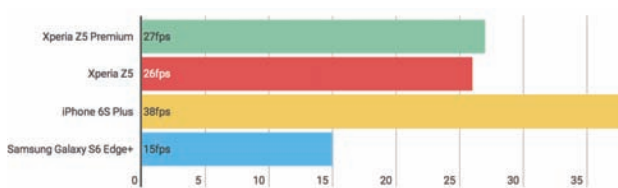
The battery is larger, since there's more space for it, but battery life is similar to the Z5. The 3430mAh capacity provided five hours and 49 minutes with a score of 3491 in our Geekbench 3 test. Not a bad result but still two or three hours behind the leaders.

As you would expect from a phone which costs over £600, you get a lot of the latest tech on-board.

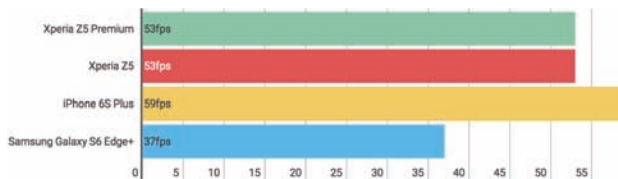
Geekbench 3



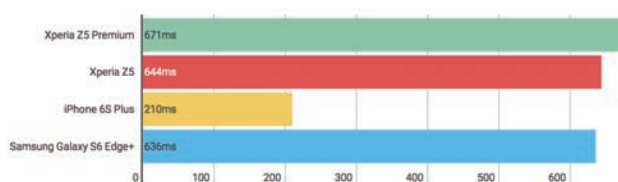
GFXBench Manhattan



GFXBench T-Rex



SunSpider*



* lower is better

The Z5 Premium features dual-band 11ac Wi-Fi, Bluetooth 4.1 with aptX, NFC, GPS and support for 4G LTE networks.

Sony has opted against a Type-C reversible USB port for now but that's not the end of the world at the

moment. The Micro-USB port is at least waterproof without a flap but we'd like to see wireless charging included for such a high-end phone.

Like the other Z5 phones, a big addition is the fingerprint scanner. But we don't mean in size as it's somehow squeezed into the power button on the size. The scanner is quick and accurate and has the best placement on the device we've experienced. It's even easy to use with the Z5 Premium on a flat surface without picking it up.

It's also got the same camera which is a new 23Mp sensor with some improvements too such as faster auto focus (just 0.03 seconds according to Sony), x5 digital zoom without a loss of quality and the best low light performance.

We love that Sony has kept the physical two-stage camera button which makes photography that bit easier and feels more professional. The focus



is amazingly fast and is easily one of the quickest we've seen helping you shoot more freely.

By default the camera shoots at 8Mp, not the full 23Mp, so that the extra pixels can be used for oversampling. We're not convinced by the Clear Image Zoom feature and while low light performance is good, the lack of optical stabilisation is a big omission here and something we'd expect Sony to offer.

The camera is very good but just not as good as Sony makes out. At the front is a 5Mp camera which is about as good as you might expect – good but nothing out of the ordinary.

Software

There are new Nexus phones running Android 6.0 Marshmallow now but the Z5 Premium comes preloaded with version 5.1 Lollipop. As mentioned earlier, an upgrade will come but we can only review it like it is now.

Sony hasn't really done much on the software side so it's really about the design and hardware here. Previous users, and even those coming from a different Android manufacturer will feel at home.

As with previous Xperia phones the user interface is fairly vanilla so Sony has decided to use the stock Android Lollipop notification bar and recent apps menu. But it does add all the Sony style like normal including wallpapers, widgets, floating apps and own-brand apps like Walkman and PlayStation.

All the Sony Xperia Z5 phones come with Xperia Lounge Gold access but they come preloaded with some third party apps like OfficeSuite, AVG, Dropbox and Facebook. These do take up space and we'd

rather choose what to install but Sony does allow you to uninstall them so it's not so bad.

Verdict

A 4K smartphone might seem like something you want but you really don't need it and it's an expensive card to play in order to trump your mates. The device is also big, uncomfortable and brash. Hardware is the same as the regular Z5 so it really comes down to the screen, which doesn't even display 4K much of the time. We strongly recommend steering clear of the Premium, which is this year's most unnecessary phone and sticking to the regular Z5 or one its alternatives. **Chris Martin**

Specifications

- 5.5in 4K IPS (2160x3840, 806ppi)
- Android 5.1 Lollipop
- 2.2GHz quad-core Qualcomm Snapdragon 810
- Adreno 430 GPU
- 3GB RAM
- 32GB internal storage
- MicroSD slot (up to 200GB)
- 23Mp rear camera AF with LED Flash
- 5Mp front camera
- Video recording at up to 2160p
- Wi-Fi up to 11.ac
- Bluetooth
- NFC
- 4G LTE Cat 6
- Nano-SIM
- 3430mAh battery
- 76x154x7.8mm
- 180g



Review:

Xiaomi Redmi Note 3

Xiaomi's all-metal budget phablet is a stunner

£118 inc VAT • mi.com/en ★★★★★

Xiaomi's phones aren't officially sold in the UK, but while the brand may not be well known to us Brits it's bigger than Apple and Samsung in China. Redmi is the company's budget smartphone line-up, and the Note 3 sits at the top of the series as an all-metal Android phablet with a fantastic design and decent performance. We review the Xiaomi Redmi Note 3.

The user experience we received with the Xiaomi Note 3 is what we were hoping for with the Xiaomi

Mi 4C. Unlike that phone, the software hadn't been altered before the Note 3 was shipped to us, and so we got exactly the experience Xiaomi intended.

That's not to say it is a great experience out of the box for UK users, which is largely down to the fact that Xiaomi phones don't come preinstalled with Google apps and much of the language in the preinstalled software is Chinese. But these things are easy to tweak, and we had our Xiaomi Note 3 up and running as we would any other UK Android phone within minutes. We'll explain how we did so in the Software section of this review.

As we mentioned, Xiaomi doesn't officially sell its phones in the UK, but you can buy them from third-party suppliers such as GearBest. Indeed, GearBest supplied our review sample of the Xiaomi Note 3, a gold handset with 16GB of internal storage and 2GB of RAM. To buy this phone from GearBest today you'll pay £118.27, although it's also worth considering the Note 3 variant with 32GB of internal storage and 3GB of RAM, given that there's no support for microSD and performance should be better. The 32GB Note 3 costs £138 from GearBest. (Bear in mind that although shipping to the UK is free, you are liable to paying import duty from China.)

One of the things to watch out for when buying a phone from China is that it is supported by your network. In the UK, the Xiaomi Redmi Note 3 operates on only the UK 4G LTE bands 3 and 7, which means band 20 (or the 800MHz) frequency used by O2 and piggyback networks such as giffgaff is not supported. Should your network be supported, however, the Note 3 offers 4G connectivity on

both of its Dual-SIM slots (this is a dual-standby phone that accepts two Micro-SIM cards). Other connectivity options are excellent, too, covering the latest 802.11ac Wi-Fi, Bluetooth 4.0, an IR blaster, GPS and GLONASS, although there's no NFC.

Despite being a budget smartphone, the Xiaomi Redmi Note 3 has some capable hardware inside, with the 2GHz MediaTek Helio X10 chip, a PowerVR Rogue 6200 GPU and a huge 4000mAh battery. Even the 2GB of RAM model was capable of raw processing performance faster than that of every phone we've tested bar the Samsung Galaxy Note 5 and S6 Edge, although it fell down somewhat in our graphics tests.

As Xiaomi's first all-metal Redmi Note, the 3 is a gorgeous in its gold incarnation (also available in silver and dark grey) with a sandblasted smooth outer shell and 5.5in full-HD display. A fingerprint scanner is fitted to the rear, alongside a 13Mp



camera with two-tone flash. Around the front you get a 5Mp selfie camera.

The MIUI 7 Android 5 Lollipop-based operating system is well regarded in China, if not ideally suited to UK users out of the box. As we've said it's quite possible to change this setup, but it's perhaps not something novice Android users would be comfortable in doing. But that's all that would stop us thoroughly recommending the Redmi Note 3 as one of the best budget Android phones money can buy. Let's find out why.

Price

As we pointed out in the introduction, it's not possible to buy Xiaomi phones directly from the company in the UK, although you can buy them from third-party unofficial channels. Our review sample came from GearBest, and is the gold model with 16GB of storage and 2GB of RAM. This Note 3 costs £118.27 with free worldwide shipping, although you should note that on shipping it to the UK you may have to pay import duty, and other pitfalls may be involved.

GearBest also sells the more advanced variant of the Redmi Note 3, which has 32GB of storage and 3GB of RAM. This phone costs £138.

Both Redmi Note 3s are available in gold, silver and dark grey.

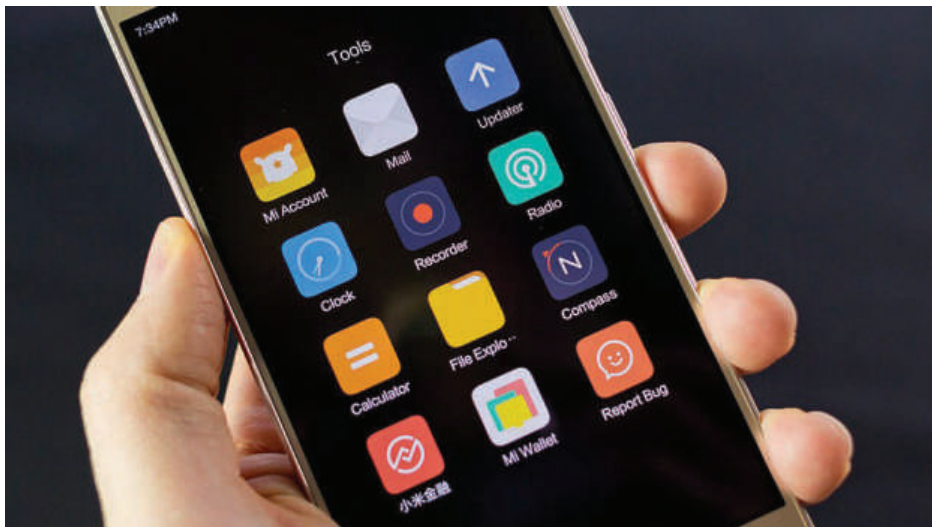
Design

Wow. That's what every single member of the PC Advisor editorial team said when we took the Xiaomi Redmi Note 3 out of its box. We've been waiting to get our hands on a Xiaomi phone for

ages, and following the disappointment that was the Mi 4C the Note 3 had a lot of making up to do. Fortunately, it didn't let us down.

While the Redmi Note 3 has some of the markings of a budget Android phone - it's on the chunky side at 8.65mm (although this is more impressive than it is disappointing given the huge 4000mAh battery inside), plus there's the rear-mounted speaker and now outdated Micro-USB port – it looks good enough to take on the iPhone in the design stakes. It's certainly the best-looking budget Android we've ever seen.

Despite housing both a large 5.5in screen and a high-capacity battery (apparently achieved using a 690Wh/L high-density cell), this Xiaomi phablet feels fantastic in the hand. It's reassuringly weighty without being heavy at 164g (only 4g more than the plastic Note 2), and rounded edges on the rear make it feel smaller than it is. On occasion you



might want to use it in both hands, but we didn't have trouble reaching to the far corner of the screen with a thumb when required. As with the Mi 4C there's also an easily accessible one-handed mode that lets you shrink down the contents of the screen to 4.5-, 4- or even 3.5in.

The gold metal shell is sandblasted to a smooth-to-the-touch but matte-effect finish. This contrasts nicely with the shiny polished edging seen around the screen, fingerprint scanner, camera and flash, and even the shiny Mi logo on the rear. It really is a premium-looking smartphone.

The fingerprint scanner mounted on the rear is perfectly positioned in terms of how you hold your phone. Usefully, it can wake and unlock the screen with a single touch, and Xiaomi's claims of it recognising your fingerprint in 0.3 seconds rang true in our tests.

We mentioned that the speaker is also rear-facing, which is usually a no-no, but a small protrusion below raises the phone ever so slightly from a flat surface such as a desk and allows sound to escape. With the exception of this bump all components lie flush with the case, including the 13Mp camera – we're not overly keen on the way many of today's



flagship phones have protruding rear cameras, although it is necessary given their ever-smaller dimensions. (While the Xiaomi is no size-zero handset, it's on the small side for a phablet at just 150x76x8.65mm.)

A full-HD screen is still not something you can reasonably expect to find in a smartphone of this price, and at 5.5in the 1920x1080 resolution equates to a crystal clear 403ppi. The screen is bright and with realistic colours and great viewing angles, making the Note 3 an ideal mobile device on which to enjoy video. To get exactly the display you want you can switch between warm, standard and cool screen colours, and choose between standard, automatic and increased contrast. The Note 3 also supports Sunlight display, making it easier to view in direct sunlight, plus a Reading mode.

Although the Xiaomi's bezels are slim, a thin black border is evident around the edge of the screen; we quite like the effect it creates. In the Settings menu you can change the wallpaper and themes, text size and font.

Also here are options to change the colour of the LED for notifications, calls and texts, and the long-press function of each of the three Android-standard buttons below the screen.

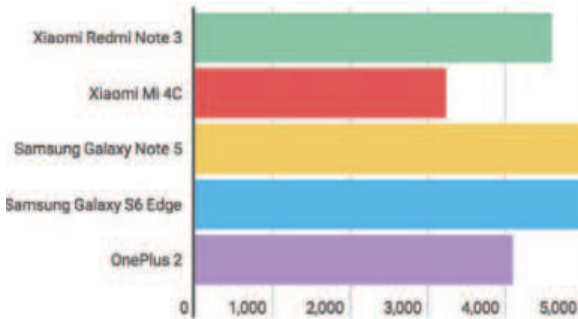
Ports and connectors are where you would expect to find them, with a metal power button and volume rocker on the Note 3's right edge, and a pin-operated slot-loading dual-SIM tray on the left (this accepts two Micro-SIMs, and both can connect to 4G). There's a headphone jack and IR blaster at the top of the Xiaomi, and a Micro-USB charging port on the bottom.

Performance

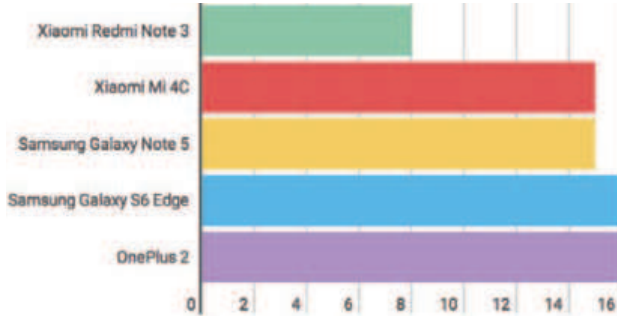
For a budget smartphone the Note 3 has some very decent hardware, and even the 2GB of RAM version turned in very good performance in our benchmarks. Everything seems fast on this phone, which will be partly down to the software, and partly the hardware.

Xiaomi has specified a 2GHz MediaTek MT6795 Helio X10 64-bit octa-core processor, PowerVR Rogue G6200 GPU and 2GB of LPDDR3 RAM. There's also 16GB of internal storage (but no support for microSD so you might prefer the 32GB option), and a huge-capacity 4000mAh non-removable battery that is charged over Micro-USB.

Geekbench 3



GFXBench Manhattan

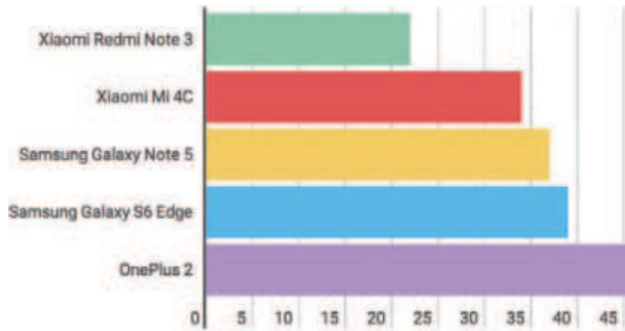


The Xiaomi supports Performance and Balanced operation modes; we ran it in Performance mode for the sake of our benchmarks, although Balanced will provide longer runtime. Even so, we got a good two days use out of the Note 3 in Performance mode.

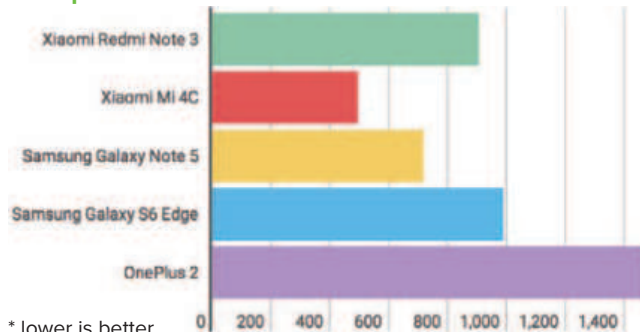
The Xiaomi's most-impressive performance results in our benchmarks came in Geekbench 3.0, which is used to measure overall processing performance. The Note 3's score of 4597 points in the multi-core component has been beaten only by the Samsung Galaxy Note 5 and Samsung Galaxy S6 Edge.

In AnTuTu, which is also used to measure overall performance, the Note 3's 46,924 points ranked

GFXBench T-Rex



SunSpider*



* lower is better

lower in comparison to other high-end Android smartphones, but are nonetheless very impressive for a phone at this price point.

That's also true of the SunSpider measurement of 907ms (tested in Chrome) – not the best we've seen but brilliant for a budget Android.

In GFXBench 3, used to test graphics, the Xiaomi began to show it wasn't quite in the same class as the flagships but, again, scores of 22fps in T-Rex and 8fps in Manhattan are very good for the money.

Connectivity

The Xiaomi Redmi Note 3 will work on all UK networks, but for 4G it isn't compatible with 800MHz/Band 20. This means customers using O2's network, or those that use its network such as giffgaff, won't be able to use 4G data.

If you can benefit from the Note 3's 4G connectivity, you'll be pleased to learn that 4G is operational on both of its two Micro-SIM slots, although this is a dual-standby phone .

Other connectivity options are very well catered for, with the latest 802.11ac Wi-Fi, GPS with GLONASS, Bluetooth 4.1 and an IR blaster. The only thing that's missing is NFC.

Cameras

Like just about every other budget Chinese phone we've seen the Xiaomi Redmi Note 3 is fitted with a 13Mp, f/2.2 rear camera and 5Mp, f/2.0 front camera. There's a two-tone flash on the back, plus a selection of modes and real-time filters.

As you'd expect at this price point detail is a little soft at full-size, and we found colours to be very



warm, but the overall result is quite acceptable and certainly better than what we saw from the Mi 4C - you don't get the same odd banding effect here.

It's worth pointing out that there are options in the camera settings to adjust contrast, saturation and sharpness, and you can use the volume button to trigger the shutter. However, the Note 3 doesn't feature the Edge Tap function found in the Mi 4C.

You can see one of our test photos of London's St Pancras station on what was a very cold and blustery day in auto mode above.

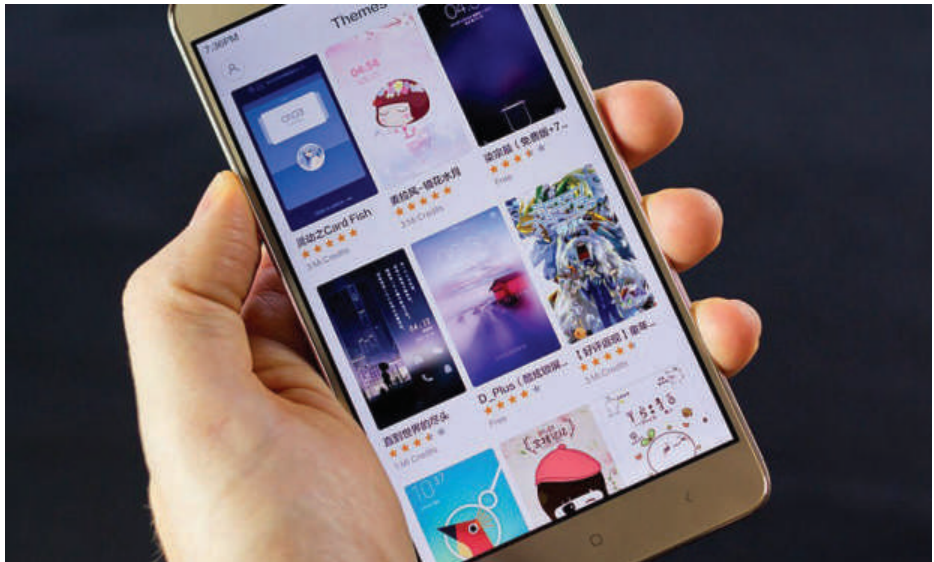
Software

Out of the box the Xiaomi Redmi Note 3 as supplied by GearBest isn't the easiest phone to use for UK

users. Running MIUI 7, which is based on Android 5.0 Lollipop, there's no Google Play store or any Google apps, and many of the preinstalled apps are in Chinese (we're still not sure what half of them do). The keyboard is also Chinese, and even when you switch its input to English you still see a lot of Chinese language popping up.

In order to solve these issues we sideloaded the Google Installer app (available from tinyurl.com/h7fmgj5, and used this to install the Google Play Store, Gmail and other Google apps. We then installed the Google Keyboard, which we downloaded from Google Play, and uninstalled the preinstalled Chinese apps (tap and hold their icons, drag them to the bin icon and tap Uninstall).

At this point the Redmi Note 3 resembled any other UK Android phone, but we did find the occasional app that Google Play reported as being



incompatible, for example AnTuTu 3DBench. These apps can be sideloaded – all you need is the APK file. You can do a Google search and download these from other sites hosting them, or install the APK Downloader Chrome extension and download them from Google Play yourself.

Of course it is possible to use the apps preinstalled on the Xiaomi Redmi Note 3 and use the phone with a Mi- rather than Google account, but we did find language to be a barrier here. The preinstalled apps also gobble up a fair amount of storage, and we had just under 10GB of the phone's 16GB free once we had installed our Google and benchmarking apps.

Having set it up as we saw fit, we found MIUI 7 has several highlights – many of which we've mentioned above, such as the customisable themes, text, LED notifications and one-handed mode. There are also some nice tweaks such as real-time filters in the Camera app, and you can switch between Balanced and Performance modes depending on how you wish to use the Note 3.

In common with iOS there's no app tray, so everything is placed on the home screen. You can group apps into folders by dragging and dropping them on top of each other.

The pull-down notification bar has also been tweaked. When you drag down from the top of the screen you'll first see notifications, and must swipe in from the right to access quick settings (making them marginally less 'quick') and a shortcut to the Settings menu.

A pinch on the home screen brings up options to move apps, add widgets and alter the wallpaper and

effects (the transitions as you move between home screens). We also like the Child mode, which lets you allow access only to certain apps installed on your phone before handing it over to the kids.

Verdict

The Redmi Note 3 may not be best suited to UK users out of the box, but with some tweaks it is an excellent budget Android phone with a fantastic design and performance for the price. **Marie Brewis**

Specifications

- 5.5in full-HD (1920x1080, 403ppi) display with Sunlight display, Night display and Reading mode
- Android 5.0 Lollipop with MIUI 7
- 2GHz MediaTek MT6795 Helio X10 octa-core
- PowerVR Rogue G6200 GPU
- 2GB LPDDR3 RAM
- 16GB storage (32GB option available)
- 802.11ac Wi-Fi
- IR Blaster
- GPS, A-GPS
- GLONASS
- Bluetooth 4.1
- Dual-SIM dual-standby (2x Micro-SIM)
- 4G LTE support for bands 3 and 7, not 20 (800MHz, used by O2) on both SIMs
- Fingerprint scanner
- 13Mp, f/2.2 rear camera with two-tone LED flash
- 5Mp, f/2.0 front camera with smart beauty profiles
- 4000mAh non-removable battery, charges over Micro-USB
- 150x76x8.65mm
- 164g

Review: BlackBerry Priv

BlackBerry's first Android device has a lot going for it

£569 inc VAT • uk.blackberry.com ★★★★★☆

The BlackBerry Priv is a BlackBerry phone that runs the Android OS. As such it is both a sign of BlackBerry's desperation to find a market, but also another interesting smartphone from the company formally known as RIM. BlackBerry may be struggling for relevance as a phone maker in the post-iPhone world, but since it relaunched with the Z10 it has been continually making high quality and useful devices.

The recent BlackBerry Passport may not be your idea of fun, but it is unique, useful and high quality. The same could be said of the BlackBerry Classic – certainly not an iPhone clone, well made, well specified. BlackBerry makes only good quality hardware, and its software support remains excellent – albeit usually on the BlackBerry OS.

So whatever the existence of the BlackBerry Priv says about



BlackBerry, Android and the current smartphone market, it is an interesting product. BlackBerry really doesn't do anything else, and the company's first non-BlackBerry OS handset has to be worth a look. Especially as it is the only Android worth your consideration that has a hardware qwerty keyboard.

Price

The BlackBerry Priv is saddled with a SIM-free price of £569 in the UK, and \$699 in the US. That puts it firmly in the upper echelons of flagship smartphones. Here in the UK you can pick it up from Selfridges for £579, or on contract from Carphone Warehouse for £54 a month with a £19 up front cost. Head over to Amazon UK and the Priv will set you back a whopping £669, currently.

That's what it costs, but what about value? Well, the BlackBerry Priv's wraparound screen most closely resembles that of the Galaxy S6 Edge, which retails for around £650 to £700. Even the super expensive iPhone 6s retails from between £459 and £619. If the Priv wants to compete at this top level of the pool, it needs to be good. Is it good enough?

Design

BlackBerrys are generally well built. Solid build quality was never the problem for BlackBerry, and nor is it now. The Priv is a big black slab of a smartphone. At



147x77.2x9.4mm with the display closed it is not by any means discreet, and it feels hefty in the hand. But that doesn't make it inelegant or poorly designed. Just big. It doesn't feel all that thick, either. Which is good because it is so big.

Big, and unique. Because that bulk is there to disguise the fact that the Priv is the Android phone that has a hardware qwerty keyboard. Yes, it is a BlackBerry. It is also a slider phone. So if you want to engage your inner Neo, this is the handset for you. But be prepared for a phone that when fully extended is all of 184 mm high, and weighs 192g.

If ever you had a slider phone in a previous life, you will love the whoosh as you slide up the BlackBerry Priv's display to reveal the keyboard. There is a slight ridge above the speaker beneath the sizeable display which just begs you to slide it up. It moves easily, and slots into place with a satisfying click. In fact, if you are anything like your author you may find yourself slip sliding away all day long – fortunately the Priv seems able to stand up to such abuse.

The display wraps around the front of the BlackBerry Priv in a similar way to that of the Galaxy S6 Edge. And as an all black, glass-fronted smartphone with silver metal trim the Priv looks the part of a high-end phone. Around the back we find the traditional patterned BlackBerry finish with BlackBerry logo in the middle. There is a protruding Schneider-Kreuznach camera sensor that stops the Priv lying flat on its back.

Along the top are trays for both the Nano-SIM and microSD card. These pop up in a way that is simultaneously practical, as well as a little old school

and somewhat flimsy feeling. Down the bottom we find a Micro-USB port and a 3.5mm headphone jack.

Overall the BlackBerry Priv is something of a curate's egg, design wise. Good looking and well put together, with some mildly disappointing elements that feel less than premium.

Display

The display is not one of those elements. It is a 5.4in QHD dual-curved display, that wraps around the front of the Priv. It looks sharp as a tack, something that is borne out by the 2560 x 1440 resolution, a spec that makes for a pixel density of around 540 ppi. It is an AMOLED screen, so expect the bright and colourful tones of a Samsung, rather than the subtle shadings of an LG or Apple phone.

Photos look great: vibrant, bright and detailed. Video too, is lovely on the BlackBerry Priv. And the way the display curves around the front of the Priv is both satisfying and cool. It sounds like a minor thing, but it is a really nice touch. Makes going back to a boring old flat display feel like a real chore.

The BlackBerry Priv's display is a real strong point. It befits a premium phone.

Keyboard

And what of that keyboard? Well, I can't say that I have ever hankered for a hardware keyboard on my Android phones, but there are times when it is useful. And if you are going to have a hardware keyboard, it might as well be a BlackBerry keyboard.

I find the Android onscreen keyboard sufficiently usable that in my use of the Priv I rarely selected the hardware pad. But there are times when thumb

typing makes sense. Long emails or reports, are good examples, because although the keys are by necessity small and close together, they are sculpted in such a way that typing is a tactile experience. The keys have a satisfying response and travel. With a little practice it is actually pretty easy to type quickly and accurately. And if you are typing for a long period of time the hardware keyboard is definitely more comfortable than smearing up the display. I wouldn't choose the Priv just because it has a hardware keyboard, but if you like having actual keys to press you might. You wouldn't be disappointed.

Performance

With a Snapdragon 808 processor and 3GB of RAM the BlackBerry Priv is a flagship phone in terms of specification, right up there with the big dog Androids such as the LG G4. The built-in GPU offers Adreno 418 graphics, and there is 32GB of storage. On our BlackBerry Priv we could see only 23GB of that storage, but that microSD slot does allow for another 200GB of storage.

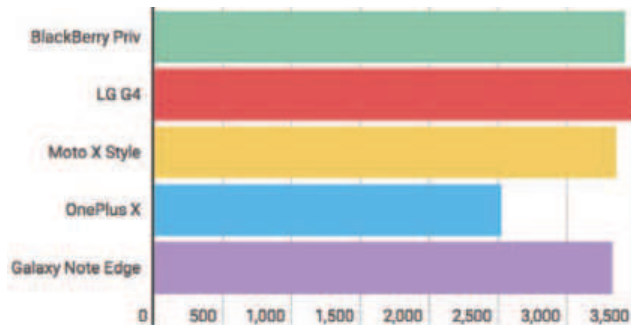
In use we found the BlackBerry Priv to be pretty good. In general, it is excellent: responsive and sharp, and able to handle anything you throw at it. Unfortunately there were the odd weird



glitches, which felt like a throwback to earlier Android times. Maybe it was just my handset.

Although you should always take synthetic benchmarks with a pinch of salt, the BlackBerry Priv benchmarks pretty well. We ran the Geekbench 3 benchmark and got an average multicore score of 3423, putting the Priv right between the LG G4 and the Moto X Style – in the upper echelons of smartphone performers. We tested graphics performance using the GFXBench tool, and in the T-Rex onscreen test got an average result of 25fps, which is the same as the LG G4 and Samsung's Galaxy Note Edge.

Geekbench 3



GFXBench Manhattan

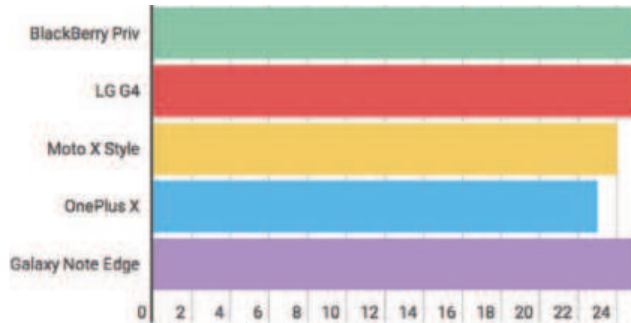


In the more strenuous Manhattan onscreen test we could achieve only 10fps. This is a similar result to that of the Galaxy Note Edge and the OnePlus X. While in the SunSpider JavaScript benchmark, our BlackBerry Priv turned in a pretty nifty average score of 646ms. Overall then, benchmark results suggest that the BlackBerry Priv is a solid high-end performer, rather than an out and out superstar. And this is exactly what we felt subjectively when using it.

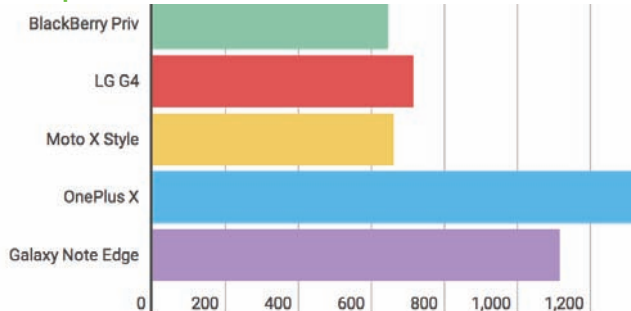
Battery life

You get a hefty 3410mAh non-removable battery in the BlackBerry Priv, which BlackBerry claims will

GFXBench T-Rex



SunSpider*



* lower is better

give you 22.5 hours of ‘mixed usage’ on a single charge. As always, such manufacturer figures are never to be trusted.

We found that we could use the BlackBerry Priv for a full day, from 5- or 6am up until 10pm. This would involve lots of email and social media, listening to podcasts and surfing the web. At the end of the day the Priv would be on its uppers, but that is to be expected. It does take a while to charge, though. Around two hours from flat when using the provided USB charger, in our experience. On that last point, the BlackBerry Priv does come with Quick Charge, enabling you to get seven hours of usage from a half-hour charge. But you need the Quick Charge-enabled plug adaptor to take advantage of this feature.

We used the Geekbench 3 battery test to benchmark the BlackBerry Priv’s charge, and achieved a result of 2869 (04:47:40) on a full charge. This is a middle of the road result, again on a par with the LG G4. So battery life is not a reason to avoid the BlackBerry Priv, but this is not the phone that has solved the battery life conundrum.

Camera

The main camera is an 18Mp snapper with optical image stabilization, phase detection autofocus, and a dual-LED flash. You can capture 2160p video at 30fps, and 1080p at 60fps, and camera features include geo-tagging, touch focus, face detection, HDR, and panorama. Around the front is a 2Mp selfie camera that captures 720p video.

I am no camera expert, but I found the BlackBerry Priv’s main camera performed well. Both



detailed close-ups and postcard-style landscapes looked good and were easy to capture. And low-light shots worked well. Above is a test shot, so you can decide.

Video was less successful, in my view. Still images were sharp and clearly defined, even when zoomed in. But perhaps because of that sharpness, movement looks blurry and jerky.

Software

So the BlackBerry Priv is the Android BlackBerry. It runs the stable and uncluttered Android 5.1.1 Lollipop, and will be updated to Android Marshmallow in 2016. It's full Android, so you get all of Google's tools and full access to the Google Play store. The apps issue has been solved, for this BlackBerry at least.

It is BlackBerry's version of Android, however. There are a handful of (easily ignorable) BlackBerry apps, as well as BBM. More interestingly we also find the Productivity Tab. This is a nice touch that takes advantage of the curved screen. It gives you super quick access to calendar events, emails and so on, wherever you are within the OS. You can adjust it or turn it off, but I found it to be more useful than the similar feature on the Samsung Galaxy Edge phones.

One other noticeable difference from standard Android is the way you are notified about incoming messages and alerts. As with a traditional BlackBerry, the app icon gets a red and white icon in the top lefthand corner, when there is an alert to which you need to be notified. BlackBerry fans will also appreciate the blinking LED at the top, which changes colour in order to notify you of incoming emails, texts and so on.

There is also a focus on pop-up widgets, via which you can slide up over an app icon and view any available widgets associated with it. Finally, swiping up from the Home button on the BlackBerry Priv will not only launch Google Now, but also shortcuts to the BlackBerry Hub and Device Search. Honestly, I don't use the BlackBerry Hub, preferring to stick to standard email and SMS apps, but long-time BlackBerry users may find this useful. And none of these amendments is annoying to the Android user, which is a big tick in the box for the BlackBerry Priv.

Verdict

The Priv is a well-made Android phone with a unique feature set. We commend BlackBerry for turning its hand to being an Android OEM, and the result is a



fast phone with a great display, hardware keyboard and solid build and design. Battery life could be better, but our main quibble is with the price: at this price the Priv needs to be a world beater. And as good as it is, it isn't that. Still, if you want an Android with a hardware keyboard and some BlackBerry features, this is the phone for you. **Matt Egan**

Specifications

- 5.4in (1440x2560, 540ppi) AMOLED capacitive touchscreen
- Android OS, v5.1.1 (Lollipop)
- Qualcomm MSM8992 Snapdragon 808
- Dual-core 1.8GHz Cortex-A57 and quad-core 1.44GHz Cortex-A53
- Adreno 418
- MicroSD, up to 200 GB
- Nano-SIM

- 32GB storage, 3GB RAM
- 18Mp Schneider-Kreuznach optics, optical image stabilization, phase detection autofocus, dual-LED (dual tone) flash
- 2Mp front-facing camera
- Wi-Fi 802.11 a/b/g/n/ac, Wi-Fi Direct, hotspot
- Bluetooth 4.1, A2DP, EDR, LE
- GPS
- NFC
- Micro-USB v2.0 (SlimPort 4K)
- Accelerometer, altimeter, gyro, ToF proximity, compass
- Li-ion 3410mAh battery
- 147x77.2x9.4mm
- 192g





Review: Samsung Gear S2

Stylish smartwatch with some interesting features

£249 inc VAT • samsung.com/uk ★★★★★☆

During IFA 2015 in Berlin, Samsung unveiled its latest smartwatch, the Samsung Gear S2. The circular smartwatch is the first of its kind from Samsung, and is following in the steps of other circular smartwatches like the Moto 360 and, more recently, the Huawei Watch. During its announcement, Samsung promised exciting things regarding the Gear S2, but did the company deliver?

Design

The Samsung Gear S2 comes in two editions, the standard Gear S2, and one for those of us that love the classic wrist watch look, the Gear S2 Classic. Samsung says the smartwatch is designed for those who prefer a more timeless design, and we think they've hit the mark. We got our hands on the standard Gear S2, which comes in both silver and a slightly darker grey.

On the wrist, the Gear S2 feels pretty lightweight and comfortable to wear. Though it measures in at 42.3x49.8x11.4mm compared to the 11.5mm width of the first generation Moto 360 which people say is quite bulky, the Gear S2 doesn't feel like a bulky watch. In fact, its weight and general build make it feel solid and premium, an issue that (in our opinion) Samsung has had with its past smartwatches.

The real beauty of the design of the Gear S2 comes not with the circular display itself, but with the bezel of the watch. Instead of directly interacting with the screen of the Gear S2, users have the option of using the rotating watch bezel to scroll through the various menus and apps of the smartwatch.

When you turn the bezel, you'll feel a gentle click which Samsung says will allow for muscle memory to eventually kick in and enable you to select apps without needing to look at the screen, although after using the watch for two weeks we still couldn't manage it. It's not a click generated by a vibration motor either, it's mechanical. This means that there's no battery life drain for those of you (and believe us, there will be a few) that just love the sensation of turning the bezel. It is pretty satisfying, we can't lie.

Of course, users have the freedom of freely tapping and swiping directly on the watch face, but this isn't how Samsung intends the device to be used. Although with this being said, we found using the bezel a little confusing when navigating the new circular UX, especially at first – but we'll come to that below. Although with this being said, early adopters of the Apple Watch had the same issue and we don't hear many complaints about it months down the line, do we?

Samsung included Android-style back and home buttons on the side of the smartwatch to make using it an easier process, though we found it to be a bit of a fiddly process and we kept confusing the buttons as there is no real indication of which is which just by looking at it.



Hardware

Let's talk spec; the Samsung Gear S2 has a 1.2in AMOLED screen with a resolution of 360x360, which would sound nicer if Huawei hadn't announced the Huawei Classic Watch, which features a 400x400 resolution, and is only £30 more expensive than Samsung's offering. Although with this being said the Gear S2 has a fairly decent pixel density of 301ppi, so it's far from a low-res display. It's protected by Gorilla Glass 3 too, which is fairly standard for current smartwatches and should help protect your wearable from scratches and general damage.

The Samsung Gear S2 features a 1GHz Exynos 3250 processor coupled with 512MB of RAM along with 4GB of on-board storage, which provides



a fairly responsive experience, and we didn't encounter any lag during our time with the watch. It also has an IP68 rating, which means its dust and water resistant to a certain extent and will definitely survive being caught in the rain.

The Gear S2 also features not only Bluetooth, but NFC and Wi-Fi capabilities. Wi-Fi connectivity is especially impressive as it allows users to use the smartwatch when not connected to your phone when at home, work, or anywhere else with Wi-Fi.

Samsung has included a host of sensors to allow the Gear S2 to track your activity throughout the day and present it to you in a watch-style layout. Instead of just measuring calories (it still does, don't worry) it'll measure the amount of activity you've done throughout the day and present it to you in blocks – green areas were areas where you were quite active (and the watch will motivate you when it detects this), yellow areas where you've taken it easy, and grey areas for when you've not moved at all.

It's a good way to motivate yourself to get fit, but we found that it wasn't very accurate at times. There were a handful of occasions where we'd be sat at our desks working, and the watch would count it as 'light activity'. Although with this being said, we love the circular layout and when you haven't been active for a while, you'll get a little nudge to encourage you to get moving. You can also monitor your exercises with only a few taps, and we found it to be more accurate than its general tracking abilities.

In terms of battery life, the Gear S2 boasts a 250mAh battery that Samsung claims should last around two to three days on a single charge, with the use of Samsung's built in battery saving mode.

Without the battery saving mode on, you can expect a similar battery life to the Apple Watch, which gets you through the day and night without issue, but will usually run out of power at some point during the second day.

Software

Samsung is using its own custom circular UX with the Gear S2, which works well with the hardware and overall design. The watch is easy to use, although it does require a bit of a learning curve to learn what all the buttons do, and which way to turn the bezel. Turning the bezel clockwise will scroll through your widgets, which can easily be customised to suit your needs – we have ours set up so we can easily initiate a run, track our daily activity and log our caffeine and water intake. Turning the bezel anticlockwise will display your notifications, and pressing one of the buttons on the side will display all installed apps on the watch. Simple, but as we say, it took a while to get used to.

The initial setup process is fairly straight forward, though you don't just need to install the Samsung Gear app on your Android device – once installed, you're prompted to install two more apps from Google Play in order for the phone to be able to communicate with the watch. But once you've gone through the setup process, the Gear app is the central command for everything to do with the Gear S2.

The Gear app is where you can customise the layout of apps on your watch, customise the watch face itself, along with a number of other settings. It's also where you can browse for apps to install on the

watch, although we noticed almost every app we installed required a full phone app to be installed to operate properly. While this isn't any different from the likes of the Apple Watch and its companion apps, it's frustrating having to download the app twice instead of having it all bundled together like Apple's offering.

Samsung is working hard with companies in various sectors (retail, social media, and so on) to make sure that the apps running on the Gear S2 can perform as best as possible. We imagine this is because more often than not, watch companion apps are pretty disappointing in terms of what they can do without requiring you to use your phone. Take the CNN app as a prime example – with other smartwatches, you're able to see



headlines of CNN stories but not much else. However, with the Samsung Gear S2 you can tap on an interesting article and read it in its entirety, directly from the smartwatch.

iOS users can also get in on the Samsung Gear S2 action, though many of the features mentioned here won't be available to them. Connecting an iPhone to the Gear S2 will provide users with notifications and limited fitness monitoring, but not much else. Though it's supported, we wouldn't advise iOS users to buy this smartwatch, especially as the Apple Watch is only £50 more and offers much more functionality for iOS users.

Overall, Samsung's circular UI is a winner for us, as it's simple to use and offers functionality not available on other smartwatches, though we do wish Samsung would somehow simplify the app installation process.

Price

So, how much does the Gear S2 cost, and where can we get our hands on them? Samsung released the smartwatch back in October 2015, and is available to purchase directly from the Samsung website for £249. Those looking for something a little fancier can opt for the Gear S2 classic, which looks more like a classic wristwatch with a grooved bezel and leather strap, costing £50 more than the standard edition at £299.

Verdict

Based on our time with the Samsung Gear S2, we think it's a sleek smartwatch with an attractive design. It offers fairly standard smartwatch features

like fitness tracking, but also includes some rather interesting features including a rotating bezel used for navigating the UI and enhanced app capabilities. At £249, it sits itself alongside the likes of the Moto 360 2, and we think the Gear S2 is a great, if not better option for Android users – especially with a custom, intuitive UI. **Matt Egan**

Specifications

- Wi-Fi, Bluetooth and NFC connectivity
- Circular watch face
- 1.2in 360x360 AMOLED display
- Heart-rate monitor
- 1GHz Exynos 3250
- 512MB RAM
- 4GB storage
- 250mAh battery
- IP68 resistance rating
- Circular UI
- 42.3x49.8x11.4mm





Review:

Motorola Moto 360 2

Android Wear smartwatch has a lot going for it

£229 inc VAT • motorola.co.uk ★★★★★☆

Motorola has launched a new version of its Moto 360 smartwatch. Our expectations were high as the original model is third in our best smartwatches chart.

Price

Prices start at £229 and the most expensive option will set you back £349 – this is the men's 46mm model, with gold case, micro knurl bezel and metal strap. For comparison, prices for the Apple Watch

starts at £299, while the entry-level LG Urbane is £219 (seventh and fifth in our charts).

Design

We loved the original Moto 360 when it launched early in 2014. It was one of the first Android Wear smartwatches and had a circular display, which helped it look more like a traditional watch rather than a lump of tech strapped to your wrist.

Our biggest complaint was that a portion of that circular display was dedicated to the ambient light sensor and therefore didn't have pixels. This resulted in an irritating 'flat tyre' effect. That's why we're so disappointed to see that it's still there. If you want to use a circular design as your clock face, you'll find that the bottom is cut off in an ugly and frustrating fashion. It might seem like a small criticism, but it makes a big difference.

Motorola has put a great deal of time and thought into the rest of the design, and designs for both men and women are available. The colour options in the men's collection are black, silver or gold option, and there are two wrist size sizes: 42- and 46mm. The women's line-up offers only a 42mm wrist size, along with silver, gold and rose gold colour options.

The Moto 360 2 has a stainless steel body, and is significantly slimmer than its older brother, helping it look sleek and in some cases elegant with the leather straps. The physical button on the side of the watch has been moved up slightly to the two o'clock position, making it easier to use.

As we briefly touched upon at the beginning of this review, you can customise the Moto 360 through Moto Maker. The previous Moto 360 had limited

options, whereas the latest model offers more choice. You can even choose to have a different colour bezel around the watch face, for example, and Motorola doesn't charge extra for that.

You do have to pay extra for 'micro etch' for women and 'micro knurl' for Men though, which is an additional £20. Tiny lines are cut into the metal to add these effects.

In terms of durability, the Gorilla Glass display combined with IP67 dust and water resistance should keep it safe in most conditions, though you won't want to wear it swimming or in the bath.

Hardware

We've talked about how the Moto 360 looks, but what can it actually do? Each model comes with a Qualcomm Snapdragon 400 chip, with a 1.2GHz quad-core processor. This brings the Moto 360 into line with premium smartwatches such as LG's Watch Urbane and the Huawei Watch (placed fifth and second in our top smartwatch charts).

Performance is generally very good, though in our tests it occasionally froze, mostly when dismissing a notification or card. This is a shame since it's not something we've experienced on rival devices. It also takes a couple of seconds to load some apps.

That Snapdragon chip is paired with Adreno 350 graphics, and there's 512MB of RAM and 4GB of onboard storage should you want to download songs and listen to them while you're out and about without your smartphone.

This brings us on to our next point, which is that the Moto 360 can connect to Wi-Fi, which means you can use lots of its internet-requiring features

without your smartphone as long as you're able to connect to Wi-Fi.

We've talked a bit about the screen size, but taking a closer look at the resolution you'll find that the 42mm model is 360x325 pixels at a pixel density of 263ppi, while the 46mm watch offers 360x330 pixels at 233ppi. Both are clear, crisp and an improvement on the original in this respect. However, as mentioned, that flat tyre is a real sticking point.

Like the original watch, it has a heart-rate monitor located on the rear. It works better than most we've seen and gives a reading without requiring you to push the watch into your skin. We're not convinced it's always accurate though, providing a reading of 100bpm while sitting at a desk writing this review.

There's no GPS, so it isn't a great choice for those looking for great fitness features. You'll want to hold out for the Moto 360 Sport when that arrives.



Depending on which model you buy, the Moto 360 2 either has a smaller or larger battery than the original – the 42mm watch's is 300mAh battery, while the 46mm is 400mAh. Our review sample had the larger and we found that with default screen settings (always on), it lasted a couple of days with light usage – heavier users will likely need to charge every night.

Charging can be a faff with smartwatches, but Motorola makes things much easier with the wireless charging dock (pictured). This means you can simply take your watch off at night, leave it on the dock while you sleep and it will be topped up when you put it back on, no matter how much you've used it. The problem comes when you find yourself away from the dock for whatever reason since you can't just plug in your smartphone charger.

Software

The new Moto 360 runs Google's Android Wear OS for smartwatches, which means it's fully compatible with most Android devices, and interestingly also with the iPhone now that Google has released an Android Wear app for iOS. iPhone users won't get the full range of features, though.

Moto Body is Motorola's fitness app, which uses the Moto 360's sensors in the to track steps, calories burnt and heart rate, and can also be used to track specific workout activities.

In addition to this, Motorola has also added Live Dials for the Moto 360, which means you can see information such as weather forecasts and your step count at a glance right from the home screen. Tapping on these takes you to the related app



on the watch itself. There aren't as many faces to choose from compared with some recent rivals, though you can, of course, download more.

Verdict

The new second-generation Moto 360 is a decent smartwatch that offers excellent build quality and hardware. The battery life and performance are also good. All of this would have lead us to a whole-hearted recommendation, if only Motorola had made the one change we wanted – removing that flat tyre from the display. As much as we like the Moto 360, it's hard to look past this, as small as it may seem. **Chris Martin**

Specifications

- Android Wear (Android 4.3 or later) and (iPhone 5 onwards, with iOS 8.2 or later)

- 1.37in, 360x325, 263ppi (42mm)
- 1.56in, 360x330, 233ppi (46mm)
- Qualcomm Snapdragon 400 with 1.2GHz quad-core CPU
- Adreno 305, 450MHz GPU
- 512MB RAM
- 4GB internal storage
- Bluetooth 4.0 LE
- Wi-Fi 802.11 b/g
- Accelerometer
- Ambient Light Sensor
- Gyroscope
- Vibration/Haptics engine
- Optical heart rate monitor (PPG)
- Dual digital mics
- Wireless charging with included dock
- IP67 dust and water resistant
- 300mAh (42mm)
- 400mAh (46mm)





Review: Huawei Watch

This gorgeous-looking smartwatch will turn a few heads

£289 inc VAT • huawei.com ★★★★★☆

Huawei's Watch may not have the most inspiring name, but when it looks this good, it doesn't matter.

Our review model (priced £289) came with leather straps, while a watch with metal straps

(pictured above) will set you back £329. That's more expensive than an Apple Watch Sport, which comes with a rubber band, but more importantly, the Huawei Watch is the most expensive Android Wear smartwatch around. This is a bit of a problem because although it's arguably the best looking, it doesn't offer anything which rivals don't when it comes to hardware or software.

Design

Our review sample had a silver body, though the company's black and gold designs look just as good. There are also two straps to choose from: leather or stainless steel. Interestingly, Huawei has placed the physical button at two o'clock rather than three, which makes sense to us – you don't need to twist your wrist as much to push it.

Like many smartwatches, the Huawei Watch is big, so you've got to be prepared for this. It's a shame that the company hasn't followed Apple's lead and produced two sizes, including one for those with smaller wrists. The stainless steel case and sapphire crystal front look great, even if it is a bit chunky at 11.3mm. We're used to some Huawei devices being cheap and made from plastic, but this certainly isn't the case here.

It's easily one of the most premium and desirable Android Wear wearables around, and indeed smartwatches in general – it can pass for a stylish regular wrist watch. Those tiny bezels play a big part in the wow factor and this is definitely a head-turner.

As well as looking great, it has an IP67 rating, so is dust-proof and will survive being dunked in up to 1m of water for a maximum of 30 minutes.

Hardware

The Huawei Watch fits in with the standard set of hardware for Android Wear devices. It has a Qualcomm Snapdragon 400 processor, 4GB of internal storage, 512MB of RAM and Bluetooth 4.1. It also has various sensors, including an accelerometer, barometer and heart-rate monitor.

The screen, however, is a little larger than rivals such as the LG G Watch R at 1.4in, but it's smaller than the Motorola Moto 360, so it's not the biggest around. What's notable is the 400x400 resolution, which means it has the highest pixel density of any Android Wear device at 286ppi.

Round screens are becoming the norm for smartwatches, with a few exceptions such as the Sony Smartwatch 3. Huawei follows this trend, but doesn't have the 'flat tyre' effect found on Motorola's 360, which is still a sticking point even with the new 2015 version.

The display looks great, offers plenty of brightness should you need it, and it's also nice and responsive. The issue is that how you choose to use the screen has a big impact on battery life.

By default, the display is set to always on, although it will dim and change the watch face to a stripped back version. According



to Huawei, the battery will last roughly two days. However, set the screen to switch itself off and you'll more than double the battery life.

Leaving it set to always on wouldn't be so bad if the charger was easy to use, but it's not. It's not a stand and although it attaches magnetically, the metal contacts don't always sit properly, so occasionally we thought the watch was charging when it wasn't.

Moving on to fitness tracking and the Huawei Watch comes preloaded with Google Fit, as you'd expect, but also the firm's own offering, Daily Tracking. This does the same job, but has a nicer interface. The heart-rate monitor, like pretty much every watch with this feature, is hit-and-miss as to whether it can take a reading successfully. We often found we had to push the watch into our wrist to get it to work properly. You'll want a dedicated fitness watch if this is important.

That's a shame, but perhaps not as much as the fact that it doesn't have GPS, so those wanting proper tracking for running will need to look elsewhere. However, the Huawei Watch is compatible with Jawbone Up bands if you don't mind wearing a second device.

Software

As we mention in all our Android Wear watch reviews, the experience is in essence the same across the board. The price, hardware and design are all important when it comes to choosing them, but it's worth pointing out that the Huawei Watch comes with the latest version of the software. This means you get Wi-Fi support to use the device

without a companion phone, and the new layout, which provides a proper app launcher and contacts list. You also have the option to draw emojis if that's your kind of thing (it actually works really well if you can think of what to draw), but more important is its iOS compatibility. This means you can use the Huawei Watch with an iPhone – just bear in mind that it's by no means the same experience compared to using it with an Android phone.

Other than the usual Google Now card-style system of notifications, the Huawei Watch comes with a huge range of watch faces built in and, of course, you can download more, as well as the apps you want to use.

Verdict

At a lower price, the Huawei Watch would be the best Android Wear smartwatch on the market, but it's a little too pricey for our liking. Although it's absolutely stunning and the build quality is exquisite, the watch lacks GPS, the heart-rate monitor is disappointing and the charger is fiddly. **Chris Martin**

Specifications

- Android Wear OS
- 1.4in (400x400) screen
- 1.2GHz processor
- 512MB RAM
- 4GB storage
- Heart-rate monitor
- Wi-Fi
- Bluetooth
- IP67
- 11.3mm



Review: Xiaomi Mi Band 1S Pulse

The best-value activity tracker just got an upgrade

£22 inc VAT • mi.com/en ★★★★★

When we reviewed the original Xiaomi Mi Band we gave the following verdict: “At £28.99, the Xiaomi Mi Band is an excellent-value, lightweight fitness band with outstanding battery life. It’s as accurate as any other fitness band, and we particularly like its sleep monitoring, vibration alarm and phone call notifications. The Mi Band companion app is very easy to use, but falls down only in its integration with other fitness and social apps.” The new Mi Band Pulse is still all of those things, plus more.

There are two key changes for the new Mi Band Pulse, with the addition of an optical heart-rate scanner that can be used on-demand, while running or to better monitor your sleep patterns, and an improved polycarbonate band. Xiaomi has achieved

this and added just 0.5g to the overall weight, meaning the Mi Band Pulse is an extraordinarily light 14.5g. Plus there are new options to share achievements on Twitter, and the ability to turn on daily notifications for sleep and activity performance.

Several months after we reviewed the original Mi Band, the soft-touch silicone band that held the tracker to our arm failed. At first we found the tracker had started to become loose in its band, and on several occasions it slipped out and we were lucky not to have lost it. Eventually the band tore and we needed to buy a replacement (you may choose to do so anyway, swapping the standard black band for a more colourful option).

The fact that the new Mi Band Pulse's band is tougher is instantly obvious – whereas the original began to show signs of wear and tear within the first few days of use the 1S does not. And we found it rather difficult to insert the tracker the first time we tried, which should mean you're far less likely to lose it.

The good news is the Mi Band Pulse has the same class-leading up to 30-day battery life, although it will prove a little quicker to run down if you make great use of the heart-rate sensor.

When it is time to recharge the Mi Band the cable has also been improved. Unfortunately it is still a proprietary USB cable, so be sure not to lose it, but it now adopts a flat design with a smaller charging dock that should make it easier to fold up and tuck away until it's required.

As before the band is waterproof rated IP67, so you don't have to take it off when you jump in the shower. And it still features the same ability

to provide a gentle vibration alarm, notify you of incoming calls and app notifications, and a phone-unlock feature that now extends to all Android 5.0+ phones rather than being restricted to Xiaomi handsets when the app is running in the background.

That said, we found it impossible to set this up with our Samsung Galaxy S6 – the phone reported that the Mi Band Pulse could keep the phone unlocked only once it had been unlocked by us, but as soon as the screen timed out the S6 requested our password, despite the Mi Band Pulse being added as a Trusted Smart Wake device.

Set up the device

We had a few headaches in setting up the Mi Band Pulse, and we aren't entirely sure whether it's because we are UK-based or because we had the original Mi Band paired to our Mi Fit account.

As we noted with the original, the instructions that come with the Mi Band Pulse are written in Chinese and therefore difficult for the majority of UK users to follow. The first thing to do is download the Mi Fit app from the Google Play store (or App Store, since the Mi Band is also compatible with iPhones running iOS 7.0 or later). You can then pair the Mi Band Pulse to the app over Bluetooth, and register for a Mi Fit account if you don't already have one. (The Mi Band Pulse will also sync with Google Fit.)

This is where we ran into problems, though. The version of the app (1.7.521) we downloaded from Google Play was the same version we used with the original, and featured no function to measure your heart rate.



We got around this by going to Settings, Security and allowing our phone to install apps from unknown sources, then downloading and installing the Xiaomi Mi Fit 1.7.611 .apk file from APKMirror.

An alternative workaround is to download the Xiaomi App Store from app.xiaomi.com and install the Mi Fit app from there.

Once we'd got the correct version of the app on our device using the Mi Band was simple. It will automatically connect and sync data as soon as you open the app, and the rest of the time goes about recording your activity without draining your phone's battery (you don't need to leave the Bluetooth switched on).

Software

As with the original Mi Band, the Mi Fit app will work with the Mi Band Pulse to do its thing with zero interaction from you. On launching the app, you'll still see the daily step counter (with number of calories burned), and can access daily data on

a bar chart from the past month. These are plotted against your daily target, which can be set as high or low as you like.

A swipe to the left brings up the sleep data, and you should find it's now more easily able to distinguish between light- and heavy sleep cycles thanks to the heart-rate sensor (if you want to extend battery life further you can turn off the 'Sleep assistant' in Mi Fit's settings, which periodically measures your heart rate during the night).

New to the app is a section to monitor your weight and BMI, which will be useful if you want the Mi Band Pulse to help you monitor your activity in an effort to slim down. This screen is found a swipe to the right of the main screen, but of course requires you to manually input this information.



The ability to record your heart rate on-demand is found in the Settings menu, along with options to share achievements with your friends (merely a screenshot of your progress – the Mi Band Pulse still lacks true social integration in the way Fitbit trackers and the like do), set up a gentle vibration alarm to wake you in the morning, or set the Mi Band Pulse to alert you to incoming calls and notifications from apps of your choice.

Design

We've already partially covered the Mi Band Pulse's build and design in this review. Almost identical to the original it's still extremely lightweight, but with a tougher hypoallergenic band with eight adjustment holes that fit any wrist from 157- to 205mm. Plus there's the new optical heart-rate sensor, which you can see working as a pulsating green light.

The Mi Band Pulse still interacts with you using vibrations, but one thing we haven't mentioned is the three LEDs on top of the tracker. These work in the same way as before – when lifted in a checking-the-time movement flash to show how close you are to your daily activity goal. The gesture is tricky to get the hang of, although the Mi Band will also vibrate and flash like crazy when you've hit your goal.

Verdict

With a tougher band addressing our issues with the original, and a new heart-rate sensor bringing it into line with rival activity trackers, you simply won't find a better-value fitness band than the Xiaomi Mi Band 1S Pulse. It still falls down on social interaction, apps and its use of a proprietary

charging cable, but given the price we can accept these shortcomings. **Marie Brewis**

Specifications

- Fitness band with aluminium magnesium alloy tracker and polycarbonate band
- Supports Android 4.4+ or iOS 7.0+ devices
- IP67 waterproof
- Optical heart-rate sensor
- Sleep tracking
- Activity tracking with daily stats notifications
- Incoming call reminder and app notifications
- Alarm
- Phone-unlock feature for Xiaomi phones or Android 5.0+ phones
- 45mAh lithium-polymer battery, lasts up to 30 days
- 37x13.6x9.9mm
- 5.5g (tracker), (9g (band)





Review: nVidia Shield

There's a lot to like about nVidia's media streamer

£289 inc VAT • nvidia.co.uk ★★★★★☆

NVidia is the latest company to enter the media streamer market, with its Shield TV. It's aimed at a different market to its competitors, though, and comes with a gaming controller alongside the standard remote. Indeed, it's been designed to allow you to stream your gaming

collection from your PC to your TV, and even stream games via GeForce Now for instant gaming.

Design

Visually, the Shield is one of the best-looking media streamers you can buy, and it's not hard to notice the hat-tilt to the gaming community with its design, which resembles a mini gaming PC. It's in your face, with its green LED lights and protruding angles.

Much like Sony's PlayStation 4, the Shield can be laid on its side or stood upright, though you'll need to buy a stand (£24.99) to do the latter.

It measures 210x130x25mm and weighs only 654g, making it a relatively thin, portable device. In fact, we'd argue it's the perfect companion for travellers – the Shield is small and sleek enough to fit in a rucksack, and will provide you with entertainment in the form of on-demand TV and gaming anywhere you go that has Wi-Fi and a TV.

Alongside the standard remote, nVidia provides a gaming controller. This is pretty bulky and takes some getting used to, especially for those unfamiliar with the layout of an Xbox-esque controller. Two-player games are available on the Shield, so if you



want to play with family or friends you'll have to fork out £49.99 for an additional controller.

One plus point for the controller is that its connected via Wi-Fi Direct, which provides incredibly low latency response times both when navigating the Shield UI and playing games. It's also compatible with the nVidia Shield tablet, giving you the freedom to game on the go with a controller rather than having to use a touch screen.

Software

In essence, the Shield is an Android Lollipop-powered TV. It includes Google Cast for mirroring content from Android and iOS devices (though iOS support is limited). The UI is one of the slickest, most responsive we've used. It's nice and simple, with everything you need at the touch of a button. You also have access to Google's Play Store, with a selection of apps and games designed to be enjoyed on a TV.

It comes with exclusive apps and features, including the Shield Games portal, which lists all the recommended Android games for purchase or free download from Google Play, all of which have been specifically optimised for use with nVidia's streamer. They include Half-Life 2 and Borderlands 2, with Resident Evil 5 expected to make an appearance in the near future. It's ideal for casual gamers that don't want to fork out up to £50 for the latest blockbuster game.

Being an Android TV, the Shield has voice control via Google Now. Simply hold the nVidia logo on the controller, or the mic icon on the remote, to activate the voice-recognition software, allowing you to easily

open apps or search for content on the device. We were pleasantly surprised at how quickly it understood what we were saying and acted upon it. Google Now also provides you with personalised recommendations on your home screen based on your activity and interests. It's a great way to explore new content.

The Shield also offers a service called nVidia GameStream, which enables gamers to stream their PC games to their TVs in full 1080p HD at 60fps over a local network. There is a catch though; gamers must have a compatible nVidia graphics card installed on their PC, and be logged into the GeForce Experience available for Windows. Once you've logged in, you'll see your entire compatible game library, ready for big-screen gaming.

There is, however, one huge disappointment when it comes to the software of the Shield. There's a handful of popular on-demand apps missing from its line-up, which could be a dealbreaker for some. While you'll find the likes of Netflix, Amazon Prime Video and BBC iPlayer available for download, it's missing other apps, such as All 4, Demand 5 and ITV Player/ITV Hub. Although it's a superb device for gaming, those who want to catch up on the latest goings on in *Coronation Street* or *Emmerdale* will have to look elsewhere.

4K support

One of the Shield's biggest selling points is that it supports native 4K output at 60Hz – the only other 4K media streamer available in the UK, the Amazon Fire TV, can only handle 30Hz at full 4K. This opens a new world of native 4K 60fps playback



from the likes of YouTube playback was limited to 30fps, but should be upgraded at some point in the future. In fact, we were a bit disappointed overall by the quality of Netflix's UHD offerings, looking only marginally more impressive than the standard upscaled 1080p image we're used to watching – but that's not a fault with the Shield.

One noticeable element of the Shield that looks impressive in 4K is the UI itself. The text, the icons and the graphics used by the Shield look crisp, with the experience reminding us of the first time we saw a Retina display after using the iPhone 3GS for two years.

Using either the USB 3.0 port or microSD slot built into the Shield, you're able to load up and play your own native 4K videos, which is where you'll really experience the impressive quality of 4K.

Hardware

The Shield uses nVidia's own Tegra X1 processor, a 256-core GPU, coupled with 3GB of RAM, making it the more powerful than any other media streamer on the market. This was borne out in our testing: apps loaded almost immediately, as did BBC and Netflix videos, and games were handled with ease.

The streamer also offers 802.11ac Wi-Fi, Bluetooth 4.1 and an IR receiver for compatibility with universal remotes, as well as Logitech Harmony. Storage wise, two models are available; 16- and 500GB. Connectivity options include two USB 3.0 ports that can be used with an external hard drive, and a microSD card slot to expand the amount of available storage.

GeForce Now

The best feature of the Shield is the inclusion of the nVidia GeForce Now cloud gaming service, which has been designed to be the Netflix of gaming. You get a three-month free trial, after which you'll need to pay £7.49 per month. At the time of writing, 50 games are available for instant streaming.

Popular titles include DIRT 3, a number of Lego games, Saints Row 3 and Red Faction: Armageddon. Granted, they're not the latest releases, but they'll suffice for a casual gamer bored on a Sunday afternoon. If you are interested in more recent titles, these are also available for instant streaming, though you'll have to purchase them first. Games such as The Witcher 3 are available to buy separately for as much as £49.99, which you might think is a bit much for a game only available on the Shield, but it isn't the case as you're also issued a Steam/GOG code to download it on to your computer.

Yes, the games are streamed over the internet but this doesn't mean a drop in quality – nVidia provides a maximum resolution of 1080p at 60fps. One of the biggest worries with game streaming is lag, one of the most frustrating things a gamer can experience when they're in the midst of a

ferocious battle. We initially tried using Wi-Fi for game streaming, which was a huge mistake – the lag was terrible, with button presses taking seconds to register, making gameplay almost impossible. We should point out that the Shield wasn't near our router, so those with better Wi-Fi connections than us may have a better experience.

Switching to an ethernet cable based connection cleared up these issues, and the experience quickly became an enjoyable one. In fact, we completely forgot that we were streaming the games as the



responses were instant, akin to what you'd expect when playing the PlayStation 4 or Xbox One. There was a drop in quality at times (full 1080p at 60fps requires 50MB/s download speeds), but not enough to become a regular issue.

GeForce Now is a fantastic option for anyone who doesn't want to fork out for an Xbox One or PlayStation 4 and then £50 per game after that, but instead want a library of games available to play through casually at our own pace. It's also a great option for those with young kids that want to play games. Sure, for dedicated gamers the library may seem a bit sparse, but the premise is good and we hope that the list of games improves over the coming months as the service becomes, without a doubt, more popular.

Verdict

We're extremely impressed by the Nvidia Shield both as a media streamer and as a games console. The beautiful UI and game-streaming technology is powered by one of the most impressive mobile processors on the market at the moment, and provides an experience akin to playing a PS4 or Xbox One. The native 4K resolution that supports 60fps playback is better than any other offering in the UK at the moment, with the Fire TV only being able to support 4K at 30fps. GeForce Now has been coined as the 'Netflix for gaming' and although the library may be a bit sparse at the moment, the experience is great – being able to choose from a library and play it instantly is an intriguing experience and gives us a glimpse at the future of on-demand gaming.

The only disappointment comes with the selection of catch-up TV apps, as we could only install BBC iPlayer, leaving those who want to use the likes of All4, Demand5 or ITV Hub without any option. The Shield is so close to being the perfect media streamer but without access to popular apps like those mentioned, it'll always fall short.. **Lewis Painter**

Specifications

- Android 5.1 Lollipop
- GeForce Now game streaming
- nVidia Tegra X1 processor with a 256-core GPU
- 3GB RAM
- 4K playback at 60fps
- 16- and 500GB storage options
- 802.11ac Wi-Fi and Bluetooth 4.1
- HDMI 2.0, 2x USB 3.0, Micro-USB 2.0, microSD slot
- 210x130x25mm
- 654g





Review:

Google Chromecast 2

Search giant's new and improved media streamer

£30 inc VAT • google.co.uk ★★★★★

Google has updated its media streaming device, with the introduction of the Chromecast 2. With improved Wi-Fi and costing just £30, we look at what the updated model offers and ask whether there is a compelling reason to upgrade.

Price

Google has kept the price at £30, which is good value for a media streamer, with most fully-fledged boxes costing £50 and upwards. Newly launched rivals such as the Apple TV cost £130, so going with

Google represents a huge saving. The Chromecast 2 is a bit of a bargain, but there is competition around this price point. The Amazon Fire TV Stick is £34, while the Roku Streaming Stick is £39, so price alone doesn't make it a winner.

At the time of writing a tempting reason to opt for the Chromecast 2 is that purchasing it from the Google Play Store means you get £20 of credit to spend on content. Google also has an ongoing Chromecast Offers scheme whereby customers get extras such as free film rentals.

Design

As you can see from our images, the Chromecast looks different to its predecessor, with Google opting for a hockey puck style body. This may be partly to differentiate it from the original, but it also lends itself to its new Wi-Fi antenna.

The device is built from plastic, with the Chromecast logo on the front. It's available in different colours to the original model: black, red (Coral) or yellow (Lemonade). The new design makes more sense with a flexible cable attached. With the original USB stick style shape, the Chromecast couldn't plug into a great deal of TVs without the use of an extension cable. Now things are simpler and there's even a magnet to hold the main body on to the HDMI plug.

Hardware

The original Chromecast was limited to 11b/g/n single-band, while its successor features the up-to-date 11ac standard – should you have a router with matching specs – and supports dual-band (2.4- and

5GHz). We initially had an issue with the streamer, which took a long time to register on the devices we were trying to cast. We soon solved this problem, though, and it hasn't returned since.

4K

If you've just bought a shiny new Ultra HD TV, then you may be disappointed to read that the Chromecast 2 supports only 1080p output through the HDMI port. We, like you, would have obviously liked 4K resolution, but we can hardly knock the device too much for this. Few devices support this and the does cost only £30. Plus, there is currently a relatively small amount of Ultra HD content out there and by the time its far more prevalent, Google may have launched a new model that supports this.

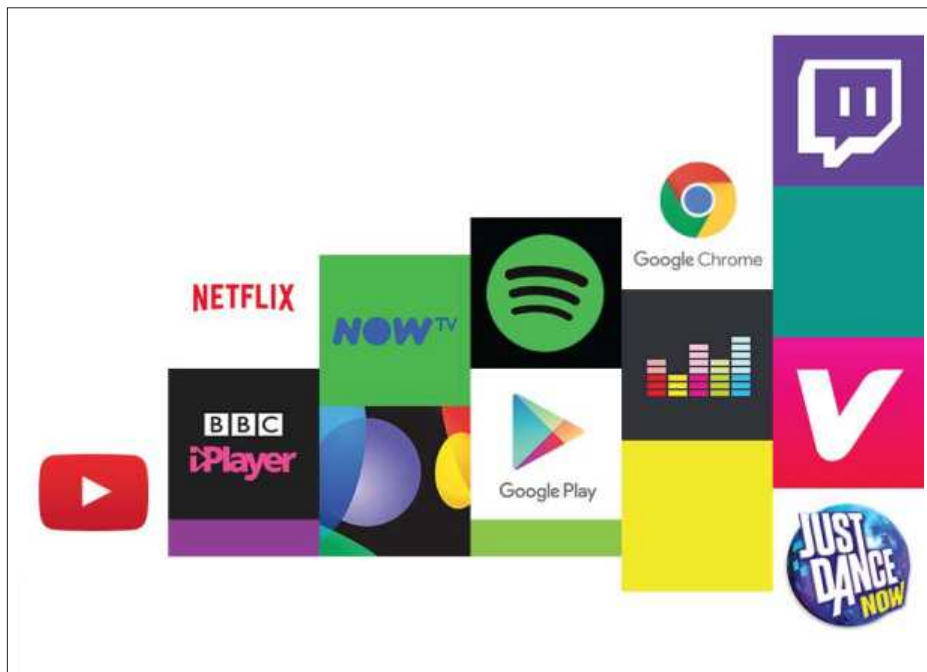
In terms of hardware, improved Wi-Fi is the main upgrade on the Chromecast 2. It still requires power via Micro-USB and works with a wide range of devices. Features such as screen mirroring work with 'most' Android devices.

Fast Play

This option predicts what you're going to do next and gets it ready to avoid you having to wait for things to load. For example, it might get Netflix ready while you're deciding what to watch, or start preloading the next episode of a series.

Casting

Google hasn't changed the Chromecast formula, so you still don't get a physical remote control. Instead you'll need to use your phone or tablet to choose what the streamer is going to do.



This remains a downside of the Chromecast as every time we've reviewed a rival with a traditional remote and user interface, things are much simpler and easier. You notice the difference when you, for example, want to browse content as a group or want to just quickly pause whatever is playing.

Google has, however, designed a new Chromecast app, which helps things a little. It allows you to see your devices (handy if you have more than one Chromecast), but more importantly helps you discover what apps support casting.

It does this via two sections. The first of these, What's On, shows you which installed apps (split into visual and audio) will work with the Chromecast, while Get Apps highlights apps you don't have.



Content

Despite costing just £30, a lot of content is on offer. This includes BBC iPlayer, Netflix, Sky Now TV, BT Sport, and, of course, Google-owned YouTube and Google Play Movies. All 4 (formally 4oD) has just been added, though there are still some gaps that need filling in the portfolio. If you enjoy watching shows on ITV Player and Amazon Prime Instant Video, you'll be frustrated at not being able to cast these to your TV via the Chromecast.

The best selection of programmes belongs to Roku, which offers a range of devices including a Chromecast-like Streaming Stick. It's more expensive at £49, but the extra content and remote control currently make it worth the extra.

Verdict






Owners of the original Chromecast have little reason to upgrade, even though Google has improved the

design and Wi-Fi. We also like the new app and the device is a bargain at £30. However, the Roku Streaming Stick outclasses it for £20 extra, with more content available, a remote control and excellent user interface. **Chris Martin**

Specifications

- Android 4.1 and higher
- iOS 7.0 and higher
- Windows 7 and higher
- Mac OS 10.7 and higher
- Chrome OS (on a Chromebook running Chrome 28 and higher)
- HDMI output 1080p
- Micro-USB for power
- 802.11 b/g/n/ac Wi-Fi (2.4-, 5GHz)
- 52x52x13.49mm
- 39g



Best smartphones					
	1	2	3	4	5
	Samsung Galaxy S6	Google Nexus 6P	Apple iPhone 6s Plus	Samsung Galaxy Note5	LG G4
Price	£349 inc VAT	£449 inc VAT	£619 inc VAT	£600 inc VAT	£500 inc VAT
Website	Samsung.com/uk	Google.co.uk	Apple.com/uk	Samsung.com/uk	Lg.com/uk
Build rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Features rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Performance rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Value rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
OS (out of box)	Android 5.0 Lollipop	Android 6.0 Marshmallow	iOS 9	Android 5.1.1 Lollipop	Android 5.1 Lollipop
Processor	2.1GHz Exynos 7420	Qualcomm Snapdragon 810	A9	2.1GHz Exynos 7420	Snapdragon 808 six-core
RAM	3GB	3GB	2GB	4GB	3GB
Storage	32/64GB	32/64/128GB	16/64/128GB	32/64GB	32GB
MicroSD support	x	x	x	x	Up to 128GB
Graphics	Mali-T760 GPU	Adreno 430	M9	Mali-T760MP8	Adreno 418
Screen size	5.1in	5.7in	5.5in	5.7in	4.5in
Screen resolution	1440x2560	2560x1440	1920x1080	720x1280	1440x2560
Pixel density	577ppi	518ppi	401ppi	518ppi	538ppi
Screen technology	Super AMOLED	Quad HD capacitive	IPS	Super AMOLED	IPS
Front camera	5Mp	8Mp	5Mp	5Mp	8Mp
Rear camera	16Mp, LED flash	12.3Mp, LED flash	12Mp, LED flash	16Mp, LED flash	16Mp
Video recording	4K	4K	4K	4K	4K
Cellular connectivity	4G	4G	4G	4G	4G
SIM type	Nano-SIM	Nano-SIM	Nano-SIM	Nano-SIM	Micro-SIM
Dual-SIM as standard	x	x	x	x	x
Wi-Fi	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band
Bluetooth	Bluetooth 4.1	Bluetooth 4.2	Bluetooth 4.2	Bluetooth 4.2	Bluetooth 4.1
GPS	GPS, Glonass	A-GPS, Glonass	A-GPS, Glonass	A-GPS, Glonass	A-GPS, Glonass
NFC	✓	✓	✓	✓	✓
USB OTG	✓	✓	✓	✓	✓
Extra features	Heart-rate sensor, fingerprint scanner	Fingerprint scanner	Fingerprint scanner	Heart-rate sensor, fingerprint scanner	24-bit/192kHz audio, rear key
Geekbench 3.0 (single)	1347	Not tested	2527	1497	Not tested
Geekbench 3.0 (multi)	4438	3939	4407	Not tested	3513
SunSpider	1048ms	636ms	210ms	718ms	715ms
GFXBench: T-Rex	30fps	34fps	59fps	37fps	25fps
GFXBench: Manhattan	14fps	14fps	38fps	15fps	9fps
Battery	2550mAh, non-removable	3450mAh, non-removable	Lithium-ion	2300mAh, non-removable	3000mAh removable
Dimensions	143.4x70.5x6.8mm	159.3x77.8x7.3mm	158.2x77.9x7.3mm	153.2x76.1x7.6mm	64.9x127x8.6mm
Weight	138g	178g	192g	171g	155g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/PC2KOYQ	TINYURL.COM/NABSV4E	TINYURL.COM/OYRA5MX	TINYURL.COM/OCQAJPL	TINYURL.COM/ORQ82MS

Best budget smartphones					
	1 Vodafone Smart Ultra 6	2 Motorola Moto E 4G 2015	3 Vodafone Smart Prime 6	4 Wileyfox Swift	5 EE Harrier Mini
Price	£125 inc VAT	£109 inc VAT	£79 inc VAT	£129 inc VAT	£99 inc VAT
Website	Vodafone.co.uk	Motorola.co.uk	Vodafone.co.uk	Wileyfox.com	EE.co.uk
Build rating	★★★★★	★★★★☆	★★★★★	★★★★☆	★★★★★
Features rating	★★★★★	★★★★☆	★★★★★	★★★★☆	★★★★★
Performance rating	★★★★★	★★★★☆	★★★★★	★★★★☆	★★★★★
Value rating	★★★★★	★★★★★	★★★★☆	★★★★★	★★★★★
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
OS (out of box)	Android 5.0.2 Lollipop	Android 5.0 Lollipop	Android 5.0.2 Lollipop	Cyanogen OS	Android 5.0 Lollipop
Processor	2.5GHz Snapdragon 615	1.2GHz Snapdragon 410	1.2GHz Snapdragon 410	1.2GHz Snapdragon 410	1.2GHz
RAM	2GB	1GB	1GB	2GB	1GB
Storage	16GB	8GB	8GB	16GB	8GB
MicroSD support	Up to 128GB	Up to 32GB	Up to 64GB	Up to 32GB	Not specified
Graphics	Adreno 405	Adreno 306	Adreno 306	Adreno 306	Not specified
Screen size	5.5in	4.5in	5in	5in	4.7in
Screen resolution	1920x1080	540x960	720x1280	1280x720	720x1280
Pixel density	401ppi	245ppi	294ppi	294ppi	312ppi
Screen technology	IPS	IPS	IPS	IPS	IPS
Front camera	5Mp	0.3Mp	2Mp	5Mp	2Mp
Rear camera	13Mp	5Mp	8Mp	13Mp, LED flash	8Mp, LED flash
Video recording	1080p	720p	1080p	1080p	720p
Cellular connectivity	4G*	4G	4G*	4G	4G
SIM type	Nano-SIM	Micro-SIM	Micro-SIM	Micro-SIM	Micro-SIM
Dual-SIM as standard	x	x	x	x	x
Wi-Fi	802.11b/g/n	802.11b/g/n	802.11b/g/n	802.11b/g/n	802.11b/g/n
Bluetooth	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0
GPS	GPS, A-GPS	GPS, A-GPS, Glonass	A-GPS	A-GPS	A-GPS, Glonass
NFC	✓	x	x	x	x
USB OTG	x	x	✓	✓	✓
Extra features	FM radio	Double-twist launches camera, lockscreen alerts	FM radio	3D G-Sensor,	Wi-Fi calling
Geekbench 3.0 (single)	649	464	464	Not tested	Not tested
Geekbench 3.0 (multi)	2469	1463	1401	1456	1549
SunSpider	1545ms	1301ms	1301ms	1760ms	1880ms
GFXBench: T-Rex	14fps	13fps	9.4fps	10fps	10fps
GFXBench: Manhattan	5.7fps	6fps	3.8fps	4fps	4fps
Battery	3000mAh, non-removable	2390mAh, non-removable	Not specified	2500mAh, removable	2000mAh, non-removable
Dimensions	154x77x9mm	66.8x5.2x12.3x129.9mm	141.65x71.89x9mm	141x71x9.4mm	138x67.9x9.5mm
Weight	159g	145g	155g	135g	124g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/Q7O9NXR	TINYURL.COM/Q7O9NXR	TINYURL.COM/Q5DSNHE	TINYURL.COM/P09KG38	TINYURL.COM/PXTROH4

* Locked to Vodafone. All other models here are unlocked

Best phablets

1
Samsung Galaxy Note5
2
Samsung Galaxy Note 4
3
LG G4
4
LG G3
5
OnePlus 2

	E600 inc VAT	E599 inc VAT	E500 inc VAT	E479 inc VAT	E239 inc VAT
Price	Samsung Galaxy Note 5	Samsung.com/uk	Lg.com/uk	Lg.com/uk	Oneplus.net
Website	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Build rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Features rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Performance rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Value rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
OS (out of box)	Android 5.1.1 Lollipop	Android 4.4 KitKat	Android 5.1 Lollipop	Android 4.4 KitKat	OxygenOS 2.0 (Android 5.1)
Processor	2.1GHz Exynos 7420	2.7GHz Snapdragon 805	1.82GHz Snapdragon 808	2.5GHz Snapdragon 801	1.8GHz Snapdragon 801
RAM	4GB	3GB	3GB	2GB/3GB	3/4GB
Storage	32/64GB	32GB	32GB	16GB/32GB	16GB/64GB
MicroSD support	✗	Up to 128GB	Up to 128GB	✗	✗
Graphics	Mali-T760MP8	Adreno 420	Adreno 418	Adreno 330	Adreno 430
Screen size	5.7in	5.7in	5.5in	5.5in	5.5in
Screen resolution	720x1280	1440x2560	1440x2560	1440x2560	1920x1080
Pixel density	518ppi	515ppi	538ppi	534ppi	401ppi
Screen technology	Super AMOLED	Super AMOLED	IPS	IPS	IPS
Front camera	5Mp	3.7Mp	8Mp	2Mp	5Mp
Rear camera	16Mp, LED flash	16Mp, LED flash	16Mp, LED flash	13Mp, LED flash	13Mp, Dual-LED flash
Video recording	4K	4K	4K	4K	4K
Cellular connectivity	4G	4G	4G	4G	4G
SIM type	Nano-SIM	Micro-SIM	Micro-SIM	Micro-SIM	Dual-SIM
Dual-SIM as standard	✗	✗	✗	✗	Yes
Wi-Fi	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11ac, dual-band
Bluetooth	Bluetooth 4.2	Bluetooth 4.1	Bluetooth 4.0	Bluetooth 4.0 (aptX)	Bluetooth 4.0
GPS	A-GPS, Glonass	GPS, Glonass	A-GPS, Glonass	A-GPS, Glonass	GPS, Glonass
NFC	✓	✓	✓	✓	✗
USB OTG	✓	✓	✓	✓	✓
Extra features	Heart-rate sensor, fingerprint scanner	Fingerprint, UV, heart-rate sensors, S Pen stylus	24bit/192kHz audio, rear key, IR blaster	24bit/192kHz audio, rear key	None
Geekbench 3.0 (single)	1497	Not tested	Not tested	Not tested	Not tested
Geekbench 3.0 (multi)	Not tested	3272	3513	2465	4094
SunSpider	718ms	1367ms	715ms	959ms	1471ms
GFxBench: T-Rex	37fps	27fps	25fps	20fps	46fps
GFxBench: Manhattan	15fps	11fps	9fps	Not tested	16fps
Battery	2300mAh, non-removable	3220mAh, removable	3000mAh, removable, Qi	3000mAh, removable, Qi	3300mAh, non-removable
Dimensions	153.2x76.1x7.6mm	78.6x153.5x8.5mm	76x149x6.3-9.8mm	75x146x8.9mm	151.8x74.9x9.9mm
Weight	171g	176g	155g	149g	175g
Warranty	1 year	2 years	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/0COAJPL	TINYURL.COM/PNHJCZ4	TINYURL.COM/QDGU4BT	TINYURL.COM/QA76T73	TINYURL.COM/NSGEV3U

Best 7- & 8in tablets					
	1	2	3	4	5
	Google Nexus 7	Samsung Galaxy Tab S 8.4	Sony Xperia Z3 Tablet Compact	Apple iPad mini 2	Google Nexus 9
Price	£199 inc VAT	£319 inc VAT	£299 inc VAT	£219 inc VAT	£299 inc VAT
Website	Play.google.com	Samsung.com/uk	Sony.co.uk	Apple.com/uk	Google.co.uk
Build rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Features rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Performance rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Value rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
OS (out of box)	Android 4.3 Jelly Bean	Android 4.4 KitKat	Android 4.4 KitKat	iOS 9	Android 5.0 Lollipop
Processor	1.5GHz Snapdragon S4 Pro	Exynos 5420, octa-core	2.5GHz Snapdragon 801	Apple A7, Apple M7	2.3GHz nVidia Tegra K1
RAM	2GB	3GB	3GB	1GB	2GB
Storage	16GB/32GB	16GB/32GB	16GB/32GB	16GB/32GB	16GB/32GB
MicroSD support	×	Up to 128GB	Up to 128GB	×	No
Graphics	Adreno 320	ARM Mali-T628 MP6	Adreno 330	Apple A7	192-core Kepler
Screen size	7in	8.4in	8in	7.9in	8.9in
Screen resolution	1920x1200	2560x1440	1920x1200	2048x1536	2048x1536
Pixel density	323ppi	359ppi	283ppi	326ppi	287ppi
Screen technology	IPS	Super AMOLED	IPS	IPS	IPS
Front camera	1.2Mp	2.1Mp	2.2Mp	1.2Mp	1.6Mp
Rear camera	5Mp	8Mp, LED flash	8.1Mp	5Mp	8Mp, LED flash
Video recording	1080p	1080p	1080p	720Op	1080p
Cellular connectivity	4G version available	4G version available	4G version available	4G version available	4G version available
Wi-Fi	802.11b/g/n, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n, dual-band	802.11a/b/g/n/ac, dual-band
Bluetooth	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.1
GPS	GPS, Glonass	GPS, Glonass	A-GPS, Glonass	A-GPS, Glonass	GPS, Glonass
NFC	✓	×	✓	×	Yes
USB OTG	✓	✓	✓	×	Yes
Fingerprint scanner	×	✓	×	×	No
Waterproof	×	×	✓	×	No
Extra features	None	Stereo speakers	PS4 Remote Play, stereo speakers	None	BoomSound speakers
Geekbench 3.0 (single)	Not tested	Not tested	Not tested	Not tested	1904
Geekbench 3.0 (multi)	Not tested	2765	2708	Not tested	3352
SunSpider	1136ms	1089ms	1017ms	397ms	955ms
GFXBench: T-Rex	Not tested	14fps	28fps	Not tested	48fps
GFXBench: Manhattan	Not tested	3fps	11fps	Not tested	22fps
Battery	3950mAh, non-removable, Qi	4900mAh, non-removable	4500mAh, non-removable	6470mAh, non-removable	6700mAh, non-removable
Dimensions	200x114x8.65mm	126x213x6.6mm	213x124x6.4mm	200x134.7x7.5mm	153.7x228.3x8mm
Weight	299g	294g	270g	331g	425g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/PUJDJBY	TINYURL.COM/OUEM64Z	TINYURL.COM/NJ6VHEO	TINYURL.COM/PCJPB5L	TINYURL.COM/NQ6K77Y

Best 9- & 10in tablets

1






2






3






4






5


	Apple iPad Air 2	Samsung Galaxy Tab S 10.5	Sony Xperia Z2 Tablet	Apple iPad Air	Google Nexus 10
Price	£399 inc VAT	£399 inc VAT	£369 inc VAT	£319 inc VAT	£389 inc VAT
Website	Apple.com/uk	Samsung.com/uk	Sony.co.uk	Apple.com/uk	Play.google.com
Build rating	★★★★★	★★★★☆	★★★★★	★★★★☆	★★★★★
Features rating	★★★★★	★★★★☆	★★★★★	★★★★☆	★★★★★
Performance rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Value rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★★
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
OS (out of box)	iOS 8.2	Android 4.4 KitKat	Android 4.4 KitKat	iOS 8.2	Android 4.2 Jelly Bean
Processor	Apple A8X, Apple M8	Exynos 5420, octa-core	2.3GHz Snapdragon 801	Apple A7, Apple M7	17GHz Exynos 5250
RAM	2GB	3GB	3GB	1GB	2GB
Storage	16GB/64GB/128GB	16GB/32GB	16GB	16GB/32GB	16GB/32GB
MicroSD support	No	Up to 128GB	Up to 64GB	No	No
Graphics	Apple A8X	ARM Mali-T628 MP6	Adreno 330	Apple A7	ARM Mali T604
Screen size	9.7in	10.5in	10.1in	9.7in	10.1in
Screen resolution	2048x1536	2560x1600	1920x1200	2048x1536	2560x1600
Pixel density	264ppi	288ppi	224ppi	264ppi	300ppi
Screen technology	IPS	Super AMOLED	IPS	IPS	IPS
Front camera	1.2Mp	2.1Mp	2.2Mp	1.2Mp	1.9Mp
Rear camera	8Mp	8Mp, LED flash	8.1Mp	5Mp	5Mp, LED flash
Video recording	1080p	1080p	1080p	1080p	1080p
Cellular connectivity	4G version available	4G version available	4G version available	4G version available	No
Wi-Fi	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n, dual-band	802.11b/g/n, dual-band
Bluetooth	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0
GPS	A-GPS, Glonass	GPS, Glonass	GPS, Glonass	A-GPS, Glonass	GPS, Glonass
NFC	Yes (for Apple Pay)	No	Yes	No	Yes
USB OTG	×	Yes	Yes	No	Yes
Fingerprint scanner	✓	Yes	No	No	No
Waterproof	×	No	Yes	No	No
Extra features	None	Stereo speakers	PlayStation certified	None	None
Geekbench 3.0 (single)	1816	Not tested	967	1487	Not tested
Geekbench 3.0 (multi)	4523	2769	2719	2703	Not tested
SunSpider	Not tested	1079ms	1099ms	400ms	1329ms
GFXBench: T-Rex	48fps	14fps	27fps	23fps	Not tested
GFXBench: Manhattan	Not tested	3fps	Not tested	Not tested	Not tested
Battery	7340mAh, non-removable	7900mAh, non-removable	6000mAh, non-removable	8600mAh, non-removable	9000mAh, non-removable
Dimensions	240x169.5x6.1mm	247x177x6.6mm	266x172x6.4mm	240x169x7.5mm	264x178x8.9mm
Weight	437g	465g	439g	469g	603g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/PLQXWSZ	TINYURL.COM/OESDFZO	TINYURL.COM/M8BZZUN	TINYURL.COM/NVQOF6H	TINYURL.COM/PUAG9RN

Best smartwatches	    				
	1	2	3	4	5
	LG G Watch R	Huawei Watch	Motorola Moto 360	Sony Smartwatch 3	LG Watch Urbane
Price	£195 inc VAT	£289 inc VAT	£199 inc VAT	£189 inc VAT	£259 inc VAT
Website	Lg.com/uk	Consumer.huawei.com/en	Motorola.co.uk	Sony.co.uk	Lg.com/uk
Overall rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Operating system	Android Wear	Android Wear	Android Wear	Android Wear	Android Wear
Compatibility	Android	Android	Android	Android	Android
Display	1.3in 320x320 P-OLED	1.4in 400x400 AMOLED	1.56in 290x320 LCD	1.6in 320x320 LCD	1.3in 320x320 P-OLED
Processor	1.2GHz Snapdrgon 400	Snapdragon 400	Ti OMAP 3	1.2GHz ARM V7	1.2GHz Snapdragon 400
RAM	512MB	512MB	512MB	512MB	512MB
Storage	4GB	4GB	4GB	4GB	4GB
Waterproof	Yes	Yes	Yes	Yes	Yes
Battery	410mAh	300mAh	320mAh	420mAh	410mAh
Dimensions	46.4x53.6x9.7mm	42x11.3mm	46x11.5mm	36x51x10mm	46x52x10.9mm
Weight	62g	40g	49g (leather band model)	45g	67g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/QATY8FT	TINYURL.COM/PXV9PVX	TINYURL.COM/O9C69K6	TINYURL.COM/OOVZ3PN	TINYURL.COM/O3VK7ES

Best smartwatches	    				
	6	7	8	9	10
	Asus ZenWatch	Apple Watch	Pebble Steel	LG G Watch	Sony Smartwatch 2
Price	£199 inc VAT	£299 inc VAT	£179 inc VAT	£159 inc VAT	£125 inc VAT
Website	Uk.asus.com	Apple.com/uk	Getpebble.com	Lg.com/uk	Sony.co.uk
Overall rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Operating system	Android Wear	watchOS	Proprietary	Android Wear	Proprietary
Compatibility	Android	iOS	iOS, Android	Android	Android
Display	1.6in 320x320 AMOLED	1.32in 340x312 Ion-X Glass	1.26in 144x168 E-Paper	1.65in 280x280 IPS	1.6in 220x176 LCD
Processor	1.2GHz Snapdragon 400	Apple S1	Not specified	1.2GHz Snapdragon 400	Not specified
RAM	512MB	512MB	512MB	512MB	Not specified
Storage	4GB	8GB	Not specified	4GB	Not specified
Waterproof	Yes	Yes	Yes	Yes	Yes
Battery	1.4Wh	Not specified	130mAh	400mAh	Not specified
Dimensions	51x39.9x7.9-9.4mm	38.6x33.3x10.5mm	46x34x10.5mm	37.9x46.5x9.95mm	42x41x9mm
Weight	75g	72g	156g	63g	123g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/NN7GA7W	TINYURL.COM/OUTH9XK	TINYURL.COM/PPBXV7J	TINYURL.COM/OB4WL6L	TINYURL.COM/P4XTAZM

Best activity trackers					
	1	2	3	4	5
	Fitbit Charge HR	Fitbit Surge	Fitbit One	Microsoft Band	Fitbit Charge
Price	£119 inc VAT	£199 inc VAT	£79 inc VAT	£169 inc VAT	£99 inc VAT
Website	Fitbit.com/uk	Fitbit.com/uk	Fitbit.com/uk	Microsoft.com/en-gb	Fitbit.com/uk
Overall rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Compatibility	iOS, Android, Windows	iOS, Android, Windows	iOS, Android	iOS, Android, Windows	iOS, Android, Windows
Display	OLED	Touchscreen	OLED	TFT	OLED
Pedometer	Yes	Yes	Yes	Yes	Yes
Heart-rate monitor	Yes	Yes	No	Yes	No
Sleep tracking	Yes	Yes	Yes	Yes	Yes
Alarm	Yes	Yes	Yes	Yes	Yes
Third-party app synching	Yes	Yes	Yes	Yes	Yes
Call notifications	Yes	Yes	No	Yes	Yes
Waterproof	Yes	Yes	No	Yes	Yes
Battery life	5+ days	5 days	10-14 days	2 days	7-10 days
Dimensions, weight	21.1mm, 26g	34mm, 51g	35.5x28x9.65mm, 8g	11x33mm, 60g	21.1mm, 24g
FULL REVIEW	TINYURL.COM/PCKV4SU	TINYURL.COM/O83DR47	TINYURL.COM/PT2TC6F	TINYURL.COM/LHMQ2AC	TINYURL.COM/PFMQ9KH

Best activity trackers					
	6	7	8	9	10
	Basis Peak	Xiaomi MI Band	Jawbone Up 2	Jawbone Up Move	Jawbone Up24
Price	£169 inc VAT	£29 inc VAT	£89 inc VAT	£39 inc VAT	£99 inc VAT
Website	En-gb.mybasis.com	Mobilefun.co.uk	Jawbone.com	Jawbone.com	Jawbone.com
Overall rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Compatibility	iOS, Android	iOS, Android	iOS, Android	iOS, Android	iOS, Android
Display	E-Ink	No	No	No	No
Pedometer	Yes	Yes	Yes	Yes	Yes
Heart-rate monitor	Yes	No	No	No	No
Sleep tracking	Yes	Yes	Yes	Yes	Yes
Alarm	No	Yes	Yes	No	Yes
Third-party app synching	No	No	Yes	Yes	Yes
Call notifications	Yes	Yes	No	No	No
Waterproof	Yes	Yes	Splashproof	Splashproof	Splashproof
Battery life	4 days	30 days	7 days	Six months, non-rechargeable	7 days
Dimensions, weight	33x43x10mm, 51g	157x205mm, 13g	220x115x3-8.5mm, 25g	27.6x27.6x9.8mm, 6.8g	S: 19g, M: 22g, L: 23g
FULL REVIEW	TINYURL.COM/LHMQ2AC	TINYURL.COM/QZ3YVCR	TINYURL.COM/PH79BZK	TINYURL.COM/PFXOFNE	TINYURL.COM/NDBYMBB

Best power banks					
	1	2	3	4	5
	Zendure A2 (2nd gen)	Xiaomi 10,000mAh	Maximas XTRON USB-C	iHarbot Power Bank MS024	Anker Astro Mini
Price	£25 inc VAT	£11 inc VAT	\$69 (€45)	£7.50 inc VAT	£13 inc VAT
Website	Zendure.com	MI.com/en	Indiegogo.com	Amazon.co.uk	lanker.com
Overall rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Capacity	6700mAh	10,000mAh	13,400mAh	5000mAh	3200mAh
Input	1x 7.5W Micro-USB	1x 10W Micro-USB	1x 10W Micro-USB	1x 10.5W Micro-USB	1x 4W Micro-USB
Outputs	1x 10.5W USB	1x 10.5W USB	1x 21W USB	1x 10W USB	1x 5W USB
Auto-on/-off	Yes	Yes	No	Auto-on	No
Passthrough charging	Yes	Yes	No	Yes	No
Status indicator	4 LEDs	4 LEDs	4 LEDs	4 LEDs	No
LED flashlight	No	No	No	No	No
Carry case	Yes	No	No	No	Yes
Dimensions	93x48x23mm	91x60.4x22mm	77x21x93mm	118x116x63mm	92x23x23mm
Weight	137g	207g	247g	150g	80g
Warranty	1 year	1 year	Not specified	18 months	18 months
FULL REVIEW	TINYURL.COM/NGCNO5F	TINYURL.COM/NFOZOCB	TINYURL.COM/PVO2LEC	TINYURL.COM/PVO2LEC	TINYURL.COM/PZHUHJO

Best desktop chargers					
	1	2	3	4	5
	CHOETech 6-port Charger	Aukey USB Charging Station	IClever USB Travel Charger	Zendure Turbo Charger	Olixar Smart IC Charger
Price	£25 inc VAT	£17 inc VAT	£20 inc VAT	£25 inc VAT	£34 inc VAT
Website	Choetech.com	Hisgadget.com	Hisgadget.com	Zendure.com	Mobilefun.co.uk
Overall rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Max output	60W	54W	50W	40W	50W
Outputs:					
USB 1	15W USB	9W USB	12W USB	12W USB	12.5W USB
USB 2	15W USB	9W USB	12W USB	12W USB	12.5W USB
USB 3	15W USB	9W USB	12W USB	12W USB	12.5W USB
USB 4	15W USB	9W USB	12W USB	12W USB	12.5W USB
USB 5	12W USB	18W USB	12W USB	12W USB	12.5W USB
USB 6	15W USB	N/A	12W USB	N/A	12.5W USB
Colours available	Black	Black	Black	Black, white	White
Dimensions	71.5x29x88.4mm	94x60x25mm	100x69x27mm	97x60x27mm	100x69x26mm
Weight	158g	149g	180g	166g	189g
Warranty	1 year	1 year	1 year	1 year	2 years
FULL REVIEW	TINYURL.COM/QG4X5D9	TINYURL.COM/P2CZMCU	TINYURL.COM/MPA4DWC	TINYURL.COM/NKYNJ7P	TINYURL.COM/OCZXK93

